APPENDIX A – SUBPART 1

Scoping Meeting and PDT Meeting Minutes

North Topsail Beach Shoreline Protections Project
Scoping Meeting Agenda- 6/8/05

Location: Dixon High School cafeteria, off Hwy 17, Dixon Community, Onslow County

1) As attendees enter into the building, there will be a sign-up sheet for each group session with assigned room number where to meet. When signing up, I want to make certain that the groups are evenly dispersed and not stacked in one or two groups. In other words, I want to eliminate an entire group from being comprised of one homeowners association or all from one organization. One way to do this is to have the individual at the table to evenly disperse the names throughout each group session, avoiding stacked groups (If possible). CPE will provide a large sized photo w/ the design overlay of the project at the sign-in table. Additionally, there will be a separate sign-up sheet for elected officials (local, State, & Federal). Should expect around 100 persons to attend. Groups should be limited to 20 persons or less, resulting in approximately 5-7 groups. I will be the mediator for the meeting.

2) 6:00; I will begin the meeting by laying down the ground rules on the proceedings of the meeting; disclosing the purpose of the meeting, and explaining what we expect to receive from the meeting. I will give a brief presentation on the EIS and permit process.

3) @ 6:15; Tom Jarrett and Erin Hague will give a brief presentation, approximately 15 minutes, describing the proposal.

4) @ 6:30; Anne Denton will give a brief CHPP presentation, approximately 10-15 minutes.

5) @ 6:45; Will break out into group sessions. Group sessions should last no longer than 8:45.

5) @ 8:45; All will reconvene in the main meeting hall for concluding comments. Will post all comments on the wall, and remind everyone that ending comments must be received by June 21, 2005. At this time will allow elected officials to provide remarks on the project.

6) Meeting is adjourned.

List of Facilitators: Jon Giles, Lillette Moore, David Timpy, Tom Farrell, Brad Shaver, Josh Pelletier
Alternate: Keith Harris and Jim Gregson

What is expected of Facilitators: 1) NOT to discuss the project in terms of what you, the facilitator, think needs to be in the EIS. Facilitator needs to be neutral, nonbiased, direct, and respectful of each comment (even if the comment is way in left field- write it down); 2) KEEP the group sessions on track, reminding the participants the reason for the meeting; 3) STOP or Limit discussions on the project (i.e., personal opinions on the issuance or denial of project), and don't allow one individual or a group of individuals to dominate the session; and 4) GO through each person soliciting only one comment. Once each individual has had a chance to give a comment, then go back through for additional comments. This will ensure that each individual's voice has been heard. Time permitting, go down each comment and take a vote to determine the top 5 or so comments. The goal is to make certain that all comments are taken down, and that each individual feels they are apart of the process. If you need to take a 5-minute bathroom break during session times, do so.

Dress Code for the facilitators: Men-professional casual; ladies-professional casual. No bluejeans please. You will be given name tags/stickers, with your group number on it, at the sign-in table.
*Please be present around 5:45 PM to receive any additional instructions.

Contractor/permittee: They will provide supplies (butcher boards, black markers, tape-duct or masking, microphone…) and set up accommodations of the meeting.

ELECTED OFFICIALS

Rodney Knowles	Mayor
Fred Handy	Alderman
Buddy Godwin	Alderman
Lionell Midgett	County Commissioner
Dick Farley	Alderman
Mike Curley	Surf City Councilman

GROUP 1

Sue Tuman	suetuman@charter.net
Maria Tripp	maria.tripp@ncwildlife.org
Jenny Owens	Jennifer.l.owens@usace.army.mi
Gary Haithcock	khaithcock@pg.com
Jim Gregson	jim.gregson@ncmail.net

GROUP 2

Buddy Godwin	bgodwin@charter.net
Bob Crowder	crowderr@pg.com
Lyndll Yawn	cmyawn@charter.net
Bob Ferguson	bob.ferguson@slli.net
Steve Walten	stevewalten_____
Sheila Cox	sheilac@north-topsail-beach.org

GROUP 3

Mike Yawn	cmyawn@charter.net
C&J Pastore	327-3630
Steve Brinkley	327-0381
Dick Peters	328-2488
Dan Tuman	328-2424

GROUP 4

Jon Giles	jon.giles@ncmail.net
Charlotte Macartney	charlotte_____
Fritz Rohde	
Steve Everhart	severhart@ec.rr.com
R&S Moser	
Brian Wheat	bwheat@ec.rr.com
Jeannie Williams	
Lynda Tennent	
Tom Cassell	tomc@north-topsail-beach.org

GROUP 5

Ross Macartney	912-661-0108
Mike Curley	328-5804
Bill Keller	327-0710
Erin Hague	561-391-8102
_____ Karmons	327-0844

GROUP 6

Dick Macartney	beachmunger@yahoo.com
Fred Lehman	327-3251
Craig Kruempel	561-391-8102
Barbara Matz	910-328-5811
Noelle Lutheran	910-796-7405
Becky Bowman	910-328-2382
Ron Bryant	910-545-4254
Michael Sace	910-327-2715

Scoping Comments

Group 1 & 2

1. Effects of increased water through inlet (marine life).
2. How this projects sand merges w/ COE's sand. Will beach widths be consistent?
3. Effects of swimmers – riptides & safety
4. Shoaling at intersection of ICW & inlet. Effects on biological & navigation resources.
5. Feasibility of adding a groin.
6. Without the project, what will be the affects on roads, sewer, erosion, hurricane damage, and other infrastructure.
7. Effects on dolphins and other marine life.
8. Explore 100-yr history of the channel. Look at past successes & failures.
9. Timing of project on local economy.
10. Effects on turtles and their nests.
11. Negative effect on Camp Lejeune?
12. Look at where deep water is now.
13. Coordinate w/USMC's plan for the inlet.
14. Get USMC's input.
15. Count # of all boats using the inlet & their economic impact on the area.
16. Look at 90% dog-leg and inlet bar channel for dredging depths. Explore these and other alternative borrow areas with the inlet.
17. Expedite the project to save the town's properties.

Group 3 & 4

1. Hard bottom areas near dredging activities.
2. Identify all hard bottoms in areas of interest.
3. Impacts on recreational & commercial fishing due to offshore borrow areas. Are these areas shrimped?
4. Channel net impacts for commercial fishing.
5. Updated erosion rates for project area.
6. Studies on beach use before and after renourishment activities.
7. Are non-resident property owners able to vote on project?
8. Renters able to vote on project?
9. Do property owners with more property (more than 1) get more than 1 vote?
10. Cease use of SONAR due to impacts on Marine Mammals.
11. Assessments should be based on the parties to be affected.
12. Use of area for foraging & nesting for shorebirds & sea turtles
    - Documentation (Pre- and Post construction)
    - With & without project
13. Develop bird nesting protected areas.

14. Onslow County should provide funding to project in proportion to property values on North Topsail Beach
15. 401 is required.
16. Post Nourishment- Will current unbuildable lots become buildable?
17. Will the ICW be studied after the channel work?
    - Shoaling/shellfish
18. EIS distinguish between historical dredging & dredging for this particular project. (State) Difference in EIS's .
19. Can the town be responsible for long-term maintenance of inlet?
20. Type of historical dredging in the inlet (side casting).
21. Future maintenance be side cast or to remove to place on beach?
22. Will the town be required to maintain a navigable inlet?
23. Quality of sand to be placed on the beach?
24. Will re-locating channel be successful in protecting beach from erosion & how long?
25. Beach width will be uniform throughout project limits, (Dune also), including creation of Dunes.
26. Wants the results of the project to withstand Category 4 Hurricane with 25' storm surge.
27. Hydraulic studies on inlet & estuaries at new width.
28. How long will project last & be successful?
29. Frequency of dredging & renourishment and cost.
30. Cost of dredging & renourishment
31. Triggers for subsequent renourishment activity
32. Will project require a building setback as a result of renourishment?
    - Different from CAMA
33. Town setbacks more strict than CAMA.
34. No houses built oceanside of existing houses.
35. Town high waterline limit.
36. Construction should avoid sea turtle impacts.
37. Specific location of transition zone between dredging & renourishment North End.
38. Property tax impact to non-waterfront property owners and to property owners outside the project area should be $0.
39. Pre-imposed (pre-construction) invertebrate & fish data.
40. Red drum spawning in the inlet impacts.
41. Blue crab spawning impacts.
42. Mitigation for possible losses of drum/crab etc.
43. Characterization of hard bottoms in areas of concern.
44. Vegetation planting in project area should be excessive.
45. Ocean currents surface to bottom & effect of sediment transport in hard bottom areas.

NORTH TOPSAIL BEACH SHORELINE
PROTECTION PROJECT
JULY 7, 2005
WORKSHOP/MEETING
MINUTES

PRESENT: Mayor Rodney Knowles, Tom Cassell, Town Manager, Shelia Cox, Capital Projects Coordinator, Dick Farley, Aldermen, Buddy Godwin, Aldermen, Becky Bowman, Beach Nourishment Chair, Tom Jarrett (CPE), Erin Hague (CPE), Craig Kruempel (CPE), and Sue McLaughlin, NTB CAMA LPO (See attached for additional members in attendance)

QUORUM:
Mayor Knowles called the meeting to order and declared a quorum present.
Mr. Knowles thanked everyone for attending and turned the meeting over to Coastal Planning and Engineering (CPE) for a briefing.

COASTAL PLANNING AND ENGINEERING BRIEFING

Mr. Tom Jarrett introduced Keith Harris from the Army Corps of Engineers. Mr. Harris welcomed everyone, and explained the agenda for the meeting. Mr. Jarrett questioned if this was a full membership present at the meeting and if this team had been finalized. Mr. Jarrett started the presentation with a briefing on the current project condition and the feasibility study. The plan that was recommended involved several segments; the two areas are CBRA area and federal area.

Mr. Jarrett explained to the members that CPE would concentrate in the CBRA area and the New River Inlet channel. The first analysis that has been accomplished has been the economics for the town; information included in this was based on erosion rates since 1983 to present which; included the recent storm and the effects on the beach. It also included looking at threatened structures and demolishing these structures or relocation.

Mr. Jarrett explained the advantages to members for the beach nourishment project for the town. He also explained that the roads may need to be moved if the project did not go forward and the cost may be born by the town. The final information provided was on the storm protection that the project would provide to the town.

Mr. Jarrett explained the problem with hard bottom areas that are located off shore of the town and the affects this hard bottoms have during a storm event. These hard bottoms can allow waves to ramp higher and sand may be being transported further out in the ocean and trapped.

Mr. Jarrett summarized the economic impact that the project would have for the town.

Mr. Cassell asked Mr. Jarrett when this information would be in its final format and what figures were being used for the current study, especially since cost of homes had gone up. Mr. Jarrett explained that he had inflated the figures to compensate for the rising increase of properties and construction costs.

Mr. Simmons asked if the un-buildable lots did not have value at this time and if there current value has been figured for future value.

Mr. Steve Walter asked about renting amounts that were used for the study, were the peak season rates used or non-peak rates used. Mr. Jarrett explained that he used an 18 week period for the rental information. Mr. Jarrett stated that some of the information contained in the study would be refined before the final draft.

Mr. Jarrett showed the team members the limits of the federal program and the CBRA area. Samples were taken all along the island for the average of the grain size of the available sand. The study shows that there is a good spread of available sand and is within the confines of compatibility requirements for the project.

Mr. Simmons asked if currently the availability and quality of the sand would meet the requirements for the project.

Mr. Jarrett explained that most of the sand did meet the criteria for the project; there may be some areas that would be close. The off shore information should be done by August. Mr. Jarrett explained that preliminary plans are to place 50 cubic yards and then adding 50 cubic yards every 4 or 5 years, except on the north end where the erosion is worse, there the fill would be 75 cubic yards. Some of the material would come from the enlarging and deepening the channel of the New River Inlet. The channel would not be repositioned but be placed in the position it occupied in the past. Dr. Bill Cleary has been conducting the study within the New River Inlet and the impact on the surrounding area. This included a base line on North Topsail and Onslow Beach and included the ebb tide delta. The photographs of the inlet started in 1938, which shows the size and movement of the inlet. The earlier photos show very little movement of the inlet within its boundaries. The improvements that were done to the inlet and coastal water way may have contributed to the change in the inlet and the ebb tide delta. Since 1958, the ebb tide delta has increased from 1938, but has maintained it size since that time. The photos also show the realignment of the channel and the land that was created after 1962, which can be attributed to the migration of the channel. The inlet's movement has not significantly changed since 1972. The deviation of the channel towards Onslow Beach began in the 1980's. The extreme erosion on either side of the inlet may be created by the amount and size of the material being transported in and out of the inlet.

Mr. Godwin asked if straightening out the inlet would work. Mr. Jarrett stated that using the side cast dredging would not, but if it was deepened it should stabilize the channel for longer periods.

Mr. Jarrett explained to the team that realignment of the inlet should help with the extreme erosion at the north end. The project would include sand management within the inlet. The channel is being proposed to be 15 feet deep and 400 feet wide. The expectations of the deepening of the channel should decrease the erosion on North Topsail and Onslow Beach. The new channel would maintain the flow within the middle and lessen the impact on the sides. The project would not increase the flood threat on the channel, but should reduce the threat on the surrounding beaches, but at this time it is too early to tell. Preliminary assessments have been conducted, but would be finalized in the study.

Mr. Frank Yelverton asked how much sand is being transported at the current time and Mr. Jarrett estimated that approximately 800,000 cubic yards are being moved on a yearly basis. Mr. Yelverton asked if you take sand out of the delta and move it to the beaches, are you not interrupting the normal flow. Mr. Jarrett stated that not necessarily would the flow be interrupted that significantly.

Mr. Varnam asked a question concerning the hard bottoms and the movement of sand around those hard bottoms and the effects and the encroachment into the hard bottoms. Mr. Jarrett explained that only moving the sand within a 4 year period should not affect the hard bottoms too much. The time period would be determined by the town, 4 years is just a proposal at this time.

Mr. Harris asked if the 15 foot depth is definitely what would be done. Mr. Jarrett stated yes that is the depth they are proposing at this time, due to other channels being dredged to this depth.

Ms. Lutheran asked if the project would be extensive and long term. Mr. Jarrett answered yes; the current plan is a long range plan for 30 years, but will be determined by the town.

Marine Resource Investigation: June 2005 (Presented by CPE)

Ms. Erin Hague explained that the Marine Resources Plan has been distributed to team members and they have not received any comments. The plan reviewed the hard bottoms areas, and sand source areas. She further stated that the plan further detailed the area of the borrow sites for the project. The hard bottoms identified at Onslow Beach were identified by photography, but it also included a review for any unexploded ordinance. The study would include in depth information on coral, fish population and detailed information on the borrow sites. Fish observations would be included in the study in detail; species, numbers and lengths. The observations will be included on Onslow Beach and the borrow sites. The identified areas in the presentation are the proposed borrow sites. She explained the hard bottoms had been also identified to include Onslow Beach area.

The presentation showed the different sites of the hard bottoms to the team members. The study showed that there were no ship wrecks present in the sand placement area.

The search pattern for the plan was explained to the members, to ensure a complete search. The northern fill section sites were identified in the plan, 12 sites were investigated for hard bottoms. The northern fill section was found to be all sand, that it was not a rock ridge. The first hard bottom was identified and investigated, and has been placed on the map by transects. The central fill section was shown in the presentation by transects. The New River sand resource investigation area is about 1 mile off shore, the hard bottoms were investigated. Site 1 very little relief was found, less than a foot. Several different species of coral and stony coral was found. CPE will need to get with team members to determine buffer areas within the borrow sites for the final plan. Mr. Craig Kruempel explained that the hard bottoms would be defined and confirmed within the plan.

Moving south to the central fill section; species that were found are oyster toad fish, black sea bass, and sheepshead. Site 2 was investigated and found a few overhangs, sponges, microbiology fungus, and then a flat span of sand. Mr. Craig Kruempel explained that the sand depth would be checked. Site 4 was closer to shore; a ledge was found but had much higher relief and had several species of sponges. Site 5 and 6 is about 5 miles off shore, contained spot tail pin fish; seaweed, and very low relief. Two more sites, 7 and 8 were investigated, these were similar to sites 5 and 6, very small recruits of coral algae, very little relief and coarse sand. Some sand movement was noticed in this area.

Summary:

In the Onslow Beach area 9 sites were investigated, two of the sites were mud, and ship wrecks were not found. North Topsail Beach's 4 hard bottoms were positively identified; as well as the sand and coarse sand. The New River sand source area was confirmed with patchy hard bottom and contained black sea bass. Site 3 and 4 contained high relief at 4 and 5 feet. Plans are to finish the investigation.

Wildlife and Fisheries asked if any fish species were collected, and Mr. Craig stated that they were not collecting species but would identify all species found.

Discussion:

What would determine a viable sand source site; vibracore investigations are being collected up to 20 feet in depth. Up to 7 feet deep in depth would be needed for a viable sand source.

Members discussed the type of sand dredge that would be used. Mr Jarrett stated that a hopper dredge would be used, but a pipe line could also be used.

The method of vibracore could be completed by 3 to 4 weeks, (August) Hopper dredge has drag arms; the cutter dredge sits in one place and sweeps adjacent area. Hopper dredge moves over the area, which makes a shallow collection, where the hopper can be a deeper sweep. The cost is comparable to each other.

Mr. Piatkawski asked when to expect the EIS to be done. Mr. Craig stated that it should be done by October. Some of the research from Bogue Inlet study will be used.

Mr. Jarrett stated that October may be an aggressive assessment for completion.
Mr. Simmons asked what year would you like to be done and Mr. Jarrett said we would like to be done in 2006, but it looks like 2007.

Ms. Hague showed the team members a map showing the location of the coral sites, which were roughly five miles off shore.

Ms. Cameron questioned the sites and the area that were chosen. She stated a concern of the Natural Heritage Area and that it may be near a borrow site. Ms. Hague stated that she has not received the correct coordinates to identify these areas, and that they would be investigated and identified in the study. Mr. Craig explained that hopefully in the September meeting they would have the GIS information available.

Mr. Hall asked which direction the sedimentation and water will flow, off shore or near shore. Mr. Craig stated wherever the current takes it.
Has any current study been done near the ebb tide delta area.
Mr. Jarrett stated that the model they are doing will not show the wind or the tides or currents. Mr. Craig stated that the borrow sites could be shut down and not used if the sedimentation becomes too great.

There was a question concerning the sedimentation plume and its possible damage. This could be a problem with out the current information. Mr. Craig stated that type of monitoring was not scheduled into this program at this time. That possible information could be supplied from the monitoring program that is being conducted in Florida.

Ms. Cameron stated that full time monitoring may be required some time in the future. That documentation specifically related to the hard bottoms for the entire project would be required.

Mr. Jarrett stated that further meetings would discuss the monitoring programs that may be required by the different agencies. Mr. Craig stated that it could take place next summer unless agencies were interested in the winter monitoring information.

Mr. Craig asked that at the next meeting that information be provided to CPE on the requirements for the monitoring for the project.

Mr. Varnam was asked if they had received any guide lines on the hard bottom requirements from any agencies. Mr. Craig has stated that previously the US Wildlife and Fisheries Department has established a 400 foot buffer area.
Mr. Varnam stated that two things were going on in Surf City and North Topsail and that providing information from CPE to both projects would be helpful and appreciated.

Mr. Tom Barbee (Marine Corps Base representative) asked if a notice of intent had been published for the project yet and if any comments had been received. Ms. Erin stated that yes it had; Ms. Erin stated that she had received some from a couple of agencies.

Mr. Barbee stated that the base is interested in not expanding the erosion by this project. Mr. Jarrett stated that this is why these meetings were being held to make sure all concerns were addressed during the process, and that CPE would make sure that the Base would be supplied information.

Mr. Jarrett asked if any representative from Onslow County was present, because of the impact this project may have on commercial fishing and boating.

Ms. Cameron asked about the deep channeling and how far along was the request to deep dredge. Mr. Jarrett stated that the town was interested in the material from the inlet, but there is also concern about the navigability of the channel being maintained. Mr. Jarrett stated that the dredging of the channel would be done all at once and using the same dredge.

Mr. Jarrett stated that some additional modeling will be done on the channel and the widening of it. Some significant estuarine habitat may be effected if the widening of the channel is accomplished. Mr. Jarrett stated that the project within the New River Inlet is not as intensive as the project in Mason Inlet and should have less of an impact on the habitat than that project.

Ms. Lutheran stated that staying out of the estuarine habitat would make the information requirements much less. Mr. Jarrett stated that may be what is done, by using more of the ebb tide delta area sand source. Ms. Lutheran asked if they should provide information about staying out of the estuarine habitat. Bogue Inlet interior information could be used for this project. Ms. Lutheran stated that they could provide this information by the next meeting. Mr. Jarrett asked if they would need to provide the information from inside the channel if they stayed from the area.

Mr. Jarrett stated that they may stay away from the Cedar Bush Cut area, and let the Corps maintain that area, that was made official at this meeting. That area would be dropped from the project.

Mr. Cassell asked how this would affect the other interested parties such as Onslow County.

Ms. Lutheran asked where the requested information should be sent to, and Mr. Craig stated that it could be sent to him or Ms. Erin Hague.

Ms. Lutheran asked for a date for the next meeting. The first week of August was suggested by Mr. Jarrett, and Mr. Craig asked about September. Mr. Lutheran suggested the 5th through the 15th of September for the next meeting. Mr. Jarrett asked Mr. Cassell about availability.

Ms. Lutheran stated that by September they would be looking to finish the data on the investigation by CPE.

The meeting was adjourned at 4:20 pm.

Respectfully Submitted,

Sue McLaughlin

TOWN OF NORTH TOPSAIL BEACH
SHORELINE PROTECTION PROJECT
AUGUST 23, 2005
MINUTES OF SECOND
PROJECT DELIVERY TEAM MEETING
10:00 A.M.

PRESENT
Alderman Buddy Godwin, Town Manager Tom Cassell, NTB CAMA LPO Sue McLaughlin, Capital Projects Coordinator Shelia Cox, Army Corps of Engineers Project Director Mickey Sugg, Coastal Planning & Engineering Tom Jarrett, Craig Kruempel and Jeff Andrews (Reference participants sheet for additional attendees)

Mr. Sugg distributed draft CD-Roms of the Engineering, Geology, and Geotechnical Investigations provided by Coastal Planning & Engineering. He asked that everyone review the CD-ROM and to provide comments or make any additional needed modeling request. Mr. Suggs would then direct CP&E to perform the analysis.

Mr. Sugg stated CP&E had revised their schedule report for the project. The report list target dates for various tasks and is amended as dates change. The new schedule was dispersed.

Mr. Sugg commented he had received the minutes of the July meeting and would email the minutes to everyone. The minutes would be beneficial to those that missed the meeting. He added if anyone had a discussion point that was misinterpreted or not sufficiently answered the matter could be revisited.

CP&E PRESENTATION
Tom Jarrett introduced CP&E Certified Hydrographer Jeffery Andrews and the Director of Environmental Studies Craig Kruempel. Mr. Jarrett stated he would summarize the draft CD and indicated there is more work to be done, such as the offshore sand source, modeling for the New River Inlet alternatives, wave transformation work and reporting to include on the final product.

The project consists of the northern and central sections, which equate to approximately seven and one-quarter miles. These sections are part of the Coastal Barrier Resources System. The Federal Government cannot participate in this area and it would have to be funded by the Town and the State.

Mr. Suggs asked Mr. Jarrett if the Cedar Bush Cut had been deleted from the project. Mr. Jarrett confirmed that had been deleted during last month's Project Delivery Team meeting. Mr. Suggs asked if this change would be displayed on any future designs and Mr. Jarrett confirmed that the changes would be reflected.

Mr. Jarrett explained the study area begins at station 785 and extends to the New River Inlet Channel, which is included. He explained that the wave climates and transport estimates were based upon the Army Corps of Engineers wave hindcast information from a station located off of the New River Inlet Channel. CP&E receives monthly estimates of the sediment transports. The wave information study data captures some of the more significant weather events. Looking at a twenty year average, the dominant transport is to the Southwest at approximately 522,000 cy per year. Reversals of 297,000 cy to the Northeast occur per year, thus the combined transport of the south and north is 819,000 cy/yr. The net transport to the Southwest is 225,000 cy/yr.

The USACE sampled beach materials of Topsail Island including profiles 13 through 34. The characteristics of the profiles indicate the active zone of the sediment transport extends 20' to the NGVC water depth and sets up the demarcation. Mickey Sugg asked if this data was recent. Mr. Jarrett stated this data was collected two years ago. Ms. Cox asked if the data was from vibracore samples and Mr. Jarrett confirmed.

Mr. Jarrett was asked how this information related to the distance physically off the beach. Mr. Jarrett indicated from the contours it was about 1500' to 2000' offshore. Mr. Sugg asked how far offshore was the borrow site. Mr. Jarrett indicated at 2.9 and added that one of Jeff Andrew's slides would reflect 3.8.

Samples obtained by the USACE were analyzed and the mean particle size was determined as .24 mm. Tables reflected the average mean particle size and the standard deviation per the sample depth, plus illustrated the native grain size characteristics for an overall composite summary.

Offshore Sand Resources Presentation ~ Jeff Andrew

Mr. Andrew reported that CP&E had completed a design profile survey. CP&E surveyed 38 different beach profiles of NTB and seven on Onslow Beach. CP&E conducted the initial investigation of the sand with 20 jet probes, followed by 5 vibracore samples. Side scan sonar was performed and the images were shown. Hard bottom areas were identified during the side scan process and 400m buffers were assigned. Mr. Sugg asked if the buffers assigned were recommendations from the CHPP (Coastal Habitat Protection Plan). Mr. Kruempel responded the attached buffers were from previous project experience. He added this is an issue that CP&E would like feedback on.

Mr. Andrew continued his presentation and explained the seismic tracklines, and identified the potential and hard bottom areas. He showed the area with the highest deposit of sand with a river channel running through it. Mr. Sugg asked if this channel lined up with any of the previous channels that cut through the inlet after Fran and Ms. McLaughlin confirmed.

The USACE has conducted some cultural resources however, additional cultural resource surveys investigations are needed. Mr. Andrew was asked if the illustrated irregular shape was due to surrounding hard bottoms. Mr. Andrew confirmed and was then asked for the scale of the illustration. He responded approximately a mile offshore and was one mile from end to end.

Mr. Andrew was asked if any fishing activities were observed during any of the data collection. He did not know of any, however Mr. Kruempel reported that Erin Hague had observed a shrimp boat passing through during her investigations.

Mr. Sugg asked Mr. Jarrett what his preference for dredging would be. Mr. Jarrett indicated the project was not at that phase to select a particular dredge. Mr. Jarrett was asked if the distributed CD included the maps, and he stated the maps were not included on the CD. Mr. Sugg asked if he could email the presentation. Mr. Kruempel indicated CP&E could assign some acreage to the map. Mr. Sugg asked if the area designated included the 400m buffer and Mr. Andrew confirmed. Mr. Sugg added as this is being developed, the information would be forwarded to all the team members.

Mr. Jarrett shared that Mr. Andrew has USACE samples of the sand material. Mr. Sugg asked if most of the shell content was in the upper foot and Mr. Andrew confirmed most of it was. Mr. Jarrett was asked how do you avoid the upper layer of shell and he responded, it could not be avoided, but in viewing the percentage it was a small amount.

Without Project Alternative

Mr. Jarrett explained the economic impact of not doing a shoreline protection project. He reviewed the methodology and then he expounded on sand bags and the two permit periods based on square footage of floor space. At the end of the sandbag permit period the structure would either be relocated or demolished and the sandbags withdrawn.

Mr. Jarrett presented information regarding the 2002 tax values of land and structures, which were obtained from the tax database furnished by the Town. Mr. Sugg asked when NTB was expected to build out and the current percentage. Town Manager Cassell remarked that would be hard to say. Ms. McLaughlin responded that half of the NTB lots are still vacant. She added there are still several large tracts that have not been subdivided. Mr. Jarrett asked for the number of building permits issued for a year. Ms. McLaughlin replied the Town is averaging over a 100 per year.

Mr. Jarrett expressed without a project, that most of the structures in the northern 2000 foot section would be gone in the next 5 to 10 years. Mr. Sugg asked if this would affect about 10 structures. Mr. Jarrett responded about 50 to 60 structures. If a structure is lost, then the tax value of the structure affects the Town's tax base for the next 30 years.

Mr. Sugg asked if North Topsail Utilities had an existing moratorium on services that would prevent property owners from relocating their threatened structures to a vacant lot. He added if vacant lots have the imposed moratorium then the tax base should not be added. Town Manager Cassell responded that the property owner could request a septic permit from the County. Mr. Sugg suggested that during the review of developable land, to confirm that services are available. If land is being factored as a potential tax base, but is not provided sewer services then it would not be a potential tax base. Mr. Jarrett indicated he looked at undivided lots across the street from the threatened structures as potential relocation options. He did not identify a lot for every possible threatened structure, especially if there were not available lots within each reach.

Ms. Cox asked Mr. Jarrett, which scenario was more expensive for the property owner. Mr. Jarrett stated it would be more expensive to relocate the house than to have it demolished. Mr. Hall asked if houses and lots were abandoned then how would the need for taxes remain the same. Mr. Jarrett yielded to Town Manager Cassell who commented we have commitments on current services that the Town must continue to provide. Mr. Jarrett added he could total and provide the exact number of structures that fall out of the tax base for this scenario.

Alderman Godwin shared that NTB has a population of approximately 1000 people and only 250 of those are full time residents. During the summer the Town has 10,000 to 15,000 people staying in NTB. Services during the winter decline but escalate during the spring and summer. Mr. Jarrett added even with the estimated future loss of ocean front properties, the demand for rental properties would remain high.

Mr. Sugg asked if the $335,000,000.00 tax base was based on structures and lots. Town Manager Cassell responded that is the total value of real and personal property within the corporate limits. Alderman Godwin added that the County is predicting a 300% increase for the 2006 evaluation.

Mr. Jarrett was asked if the project is executed, what level of liability the Town would have to maintain the same level of protection needed. He responded it would be hard to predict what the level of development would be. There would most likely be a drop in development as it was in 1996, if a tremendous amount of damage occurred after the thirty year project. Future structures should be developed at a fair distance back than previously erected. Development would continue regardless of what the future holds, and the Town needs to look into how to minimize future liability. The analysis would show the Town's liability and that it is less expensive to execute a project than to do nothing for protecting citizen's investments.

Mr. Sugg commented after the economical analysis is done, he would have his economist review the analysis and then comment about the accuracy. Mr. Jarrett was asked if the economic issues are in accordance with the State's (NEPA) requirements. Mr. Sugg responded there are not necessarily requirements, but beneficial for the applicant because it shows that there is an economical need for project. Mr. Jarrett added it is also the storm damage reduction and the Town is concerned about the tax base and the loss of rental income.

Mr. Jarrett was asked if he had any figures for the cost of the project. He responded the feasibility study CP&E provided for the Town included some numbers. However, he would have to review those older figures.

Mr. Jarrett explained the beach fill design and the two project sizes, which are 50 cy/lf and 75 cy/lf. The initial construction would require 93 to 95 cy for the northern section and 65 cy for the central section. The northern section based on historical erosion rates, would require 18 cy per foot and the central section would need 14 and a half cy per foot for the additional four year nourishment.

Mr. Sugg asked if any beach fill would be deposited directly onto any hard bottoms. Mr. Jarrett stated no, however, it could eventually flow onto the hard bottoms. Mr. Sugg suggested looking into what might happen with the material a year later and the possibility of it transferring offshore onto the hard bottoms. Mr. Jarrett stated the hard bottom areas would be discussed during the next PDT meeting. Mr. Kruempel added the diving had been completed and they are working on GIS and pulling the analysis together for characterization.

Mr. Sugg commented information regarding the offshore hard bottom surveys and potential problems would be discussed before the next meeting and then divulged during the next PDT meeting.

Mr. Sugg suggested to Mr. Jarrett to use the larger 75 cy project, because if after the proposal the bid comes in too high, then the amount would have to be reduced. Mr. Jarrett agreed and added this does not commit the Town to build this exact project, but would allow the Town to build up to that size. Mr. Sechler asked what affects the 50 cy project might propose for impacting offshore hard bottoms. Mr. Jarrett responded very little for the Central section.

Alderman Godwin asked why the current plan does not include dune enhancement and how much would this reduce storm damage. Mr. Jarrett commented the Town could incorporate dune enhancement into the project, which would add a lot of volume per foot. Alderman Godwin remarked it would help to see some dune enhancement. Mr. Jarrett stated dune features and grassing would be added. Mr. Sugg asked if the existing dune would be added to. Mr. Jarrett stated yes and extended a little. Mr. Sugg asked if the existing dune was vegetated. Mr. Jarrett responded there is vegetation on the dunes and the Town tries to keep it up. Mr. Sugg asked Mr. Huggett if Coastal Management would approve of adding to the existing dune. He remarked he would have to look at the existing vegetation to be impacted, and see what state it was in. Mr. Jarrett stated an option may be to add to the back side, if the vegetation is lush. Mr. Sugg suggested that DCM walk the area to approve of the areas that sand could be added to.

The comment was made if the Town exceeds the 50 yd range then the Town would have to do a pre-project vegetation line, which would become a static vegetation line. The set back for the future would be based on if the vegetation grew further seaward, and the Town would not be creating new buildable lots. Mr. Jarrett shared he has previously discussed this issue with the Town, that the pre-project vegetation line would have to be established.

Mr. Rhode asked how the larger project compared with the materials available in the offshore site. Mr. Jarrett stated the 75 cy project would require 3 ½ m cy and the offshore borrow volume consists of 5 m cy. Mr. Rhode asked if the renourishment would happen every four years. Mr. Jarrett indicated that some of the renourishment material would come from the New River Inlet Channel as part of the maintenance.

After breaking for lunch, Mr. Sugg reiterated this meeting is not to make permit decisions, but to discuss items for inclusion in the EIS.

Mr. Jarrett discussed the various impacts that the New River Inlet Channel has had on the adjacent shorelines and explained the history of the channel. The Merritt was used to begin the maintenance activity on the channel in 1964. CP&E contracted with Bill Cleary of UNCW to evaluate the historical changes in the configuration of the New River Inlet ebb tide delta and the impact the changes have had on the adjacent shorelines. Onslow Beach has lost 400' to 500' over the past 40 years. The orientation and the position of the channel were tracked from 1962 to 2003. The channel has been persistently shifting.

Mr. Sugg asked which plan CP&E had decided upon for the realignment of the channel. Mr. Jarrett stated the proposed realignment for the channel by Dr. Cleary was the previous 1987 or 1988 position. Mr. Sugg asked as the apex moves towards the southwest would the noel zone move towards the inlet. Mr. Jarrett stated it would not. Ms. Cameran asked Mr. Jarrett about his thoughts on allowing nature to take its course with the channel. Mr. Jarrett stated the success of the project would depend on the shoreline responding favorably to the channel positioning. There would not be any way to hold a beach with the current position of the channel and the exposed beach.

Mr. Sugg asked if the main focus on the inlet was the sand source or protection. Mr. Jarrett stated the main focus was in reshaping the north end of the island for protection. Secondary is to remove material from the inlet to nourish the beach. He added that the USACE is not properly maintaining the inlet.

Mr. Jarrett was asked about monitoring of the habitats of the marsh complex on either side of the inlet and how it has been affected historically. Mr. Jarrett stated the area has been impacted but seems to have stabilized now. Mr. Huggett stated DCM would need to see post project monitoring.

Mr. Jarrett stated the proposed channel and the re-shaping of the ebb tide delta should provide some of the benefits the Town is looking for at the north end. The model flow volumes show a five to six percent increase in the ebb flow, which would be a more open system. The figures include the Cedar Bush Cut, which are just preliminary. Mr. Sugg asked if all of the CD-Roms included the Cedar Bush Cut and Mr. Jarrett confirmed that they did.

Mr. Jarrett shared that CP&E was working on the model results, summary of vibracores and jet probe areas. Analysis of all the cores would be done to determine the percentage of shells, rock and silt. The existing sediment budget was discussed.

Mr. Sugg asked if the construction date was still for 2007. Mr. Jarrett indicated the target date to award the contract is for November 2007. He added at the next meeting that more detailed information of the offshore borrow area would be provided. Mr. Sugg asked if habitat mapping would be included. Mr. Kruempel stated habitat mapping would be included. Ms. Cameran added she had requested from Erin Hague that she would like to see shore bedding and nesting information performed every two to three years.

Mr. Sugg informed the PDT that if they had questions before the next meeting date to email the questions to him and copy either Erin Hague, Tom Jarrett or Craig Kruempel with CP&E.

The next meeting date was discussed. The third PDT meeting would be held on Thursday, October 6, 2005 at 10:00 a.m. Mr. Sugg would email all participants a notification of the date and or changes.

Mr. Jarrett shared that the draft CD-ROMS contained a few glitches.

The meeting was adjourned at 2:40 p.m.

Minutes prepared and submitted by Shelia H. Cox, Capital Projects Coordinator for the Town of North Topsail Beach.

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Minutes
9 November 2005 PDT
North Topsail Beach Town Hall

Mickey Sugg opened the meeting indicating that the topics for discussion include preliminary definition of the Permit Area and Survey (or Project) Area, pre-project monitoring, and a review of the hard bottom surveys being conducted by CPE. Due to the limited number of PDT members able to make the meeting (Note: the meeting had been rescheduled due to impacts of Hurricane Wilma on south Florida), development of project alternatives will be postponed until the next meeting scheduled for early December. A list of meeting participants is provided at the end of the minutes.

Tom Jarrett asked if anyone had any comments or questions on the feasibility report provided to the PDT in July. **Mickey** asked if the vibracores shown on the August 2005 survey of New River Inlet were new. **Jarrett** said that they were the same ones included in the feasibility report. **Howard Hall** questioned the rate of sea level rise used in the feasibility report. He is of the opinion that the rate of rise should be greater than the 0.86 ft per century used in the feasibility report. **Jarrett** indicated that the rate was interpreted from rates reported for the Chesapeake Bay area and Charleston, SC since rates applicable to the open coast of North Carolina are not available. **Jarrett** pointed out that sea level rise was only one component responsible for observed shoreline changes along North Topsail Beach with the existing rate of rise probably causing a loss of 2 feet/year. With erosion rates equal to 4 to 6 fee/year along portions of North Topsail Beach, doubling the rate of sea level rise would only impact the sea level rise component, not the entire rate. For example, if the existing rate of shoreline change is 4 ft/year, with 2 ft/yr attributed to the existing rate of sea level rise, doubling the rate of sea level rise would increase the shoreline change rate to around 6 ft/yr not 8 ft/yr. **Howard** was concerned that even if the rate is correct, prediction of increases in the rate of rise over the next 30 years could significantly impact future nourishment requirements. **Jarrett** agreed to review the rate of rise and evaluate the impact increases in the rate of sea level rise would have on future nourishment requirements.

Mickey initiated the discussion of the Permit Area and Survey Area. The Permit Area is the area expected to receive either direct or indirect impacts from the project. For example, placement of beach fill would be a direct impact while future shoreline changes associated with possible inlet modifications would be indirect impacts. The Survey Area, which would be larger, would be used to determine if impacts inside the Permit Area are significant. All resources within the Permit Area will have to be identified and mapped in detail while only representative sampling will be needed in the Survey Area to map the extent of the various resources.

Mickey reviewed the Permit Area he and **Jarrett** had discussed. The preliminary Permit Area would extend from the ocean front road on North Topsail Beach seaward to about the 20 to 22 foot depth contour. This seaward limit would be modified to include any near shore hard bottom areas located near the anticipated toe of the beach fill. The Permit Area would include the marsh area and overwash area west of New River Inlet and would extend up Cedar Bush Cut to the old dredged material disposal areas, cross over Cedar Bush Cut to the Onslow Beach side and then

follow along the back side of the dune on Onslow Beach north to the limits of the possible beach fill area. **Jarrett** noted that the historic changes in the overwash area on the North Topsail Beach side of Cedar Bush Cut will be mapped for future use in evaluating changes associated with a new inlet bar channel. He indicated that the overwash process will continue with or without inlet modifications.

Doug Huggett suggested extending the Permit Area farther up Cedar Bush Cut and includes areas 15 to 20 feet beyond the shorelines on each side of the Cut. He was concerned with possible sediment accumulation in the fringe areas during initial system adjustment to the new channel regime. **Sue Cameron** mentioned that the overwash area on the south end of Onslow Beach was an important bird habitat and should be included in the Permit Area. These areas were added to the preliminary Permit Area.

Mickey asked about potential sediment redistribution associated with modifications in the New River Inlet bar channel. **Jarrett** said a sediment redistribution analysis will be done but has not been accomplished to date. Three channel alternatives have been developed for evaluation in the numerical model. All of the alternatives would have a depth of -15 feet MLW with three possible widths, 300 feet, 400 feet, and 500 feet. The model will look at changes flow volumes and distribution associated with smaller and larger channel. This information will then be used to develop possible sediment redistribution. **Mickey** indicated that once this information is developed, may want to modify the area in Cedar Bush Cut included in the Permit Area. He noted that the extent of the area in Cedar Bush Cut could be increased or possibly decreased depending on the predictions.

Howard Hall asked if the new channel would increase salinities, particularly farther up Cedar Bush Cut to the AIWW. **Jarrett** said that the preliminary model results, reported in the feasibility report, did not indicate significant changes in the volume of tidal flow in Cedar Bush Cut and therefore, increases in salinity did not seem likely. However, **Jarrett** pointed out that the preliminary model results included modifications to Cedar Bush Cut which are not part of the present proposal. He indicated that the results of the new model runs should clarify flow and circulation changes and resolve some suspected model problems with flows over the marsh area on the west side of Cedar Bush Cut. *(Note: Model runs for the channel alternatives have been initiated with some preliminary results possible by the next PDT meeting in December and definitely by January.)*

The limits of the preliminary Permit Area will be plotted on a map by CPE and distributed to the PDT.

Mickey initiated a discussion of pre-project monitoring. **Doug Huggett** and **Fritz Rohde** indicated that benthic monitoring should be included but they were not in a position at this time to say where.

Mickey indicated that infauna monitoring will also be required similar to the Bogue Inlet project. The Bogue Inlet project specified 3 years of monitoring for infauna. **Mickey** suggested that if the monitoring results showed no significant impacts after on infauna within 1 or 2 years, the

monitoring time period could be reduced. **Doug** said he could accept that, but the applicant should be in a position to support the full three years and possibly more than three years.

Michelle Duval said that mining of the inlet could have long-term impacts, particularly if the project goes on for 30 years. **Mickey** said if the initial dredging project did not show any significant impacts on infauna or major changes in the configuration of the flood tide delta may not need to include monitoring after each operation. However, monitoring after each maintenance event could be required. One concern is the offshore distribution of material not only from the inlet but from the beach fill areas. Offshore redistribution could potentially impact near shore hard bottom areas. Accordingly, these near shore areas will have to be monitored.

Jarrett asked how permit would be structured. **Mickey** said that the permit would cover the full 30 years. **Doug** indicated that the State permit would be issued anticipating 30 years of project maintenance, however, the permit will only cover the initial event. Subsequent maintenance and re-nourishment will have to go through the major permit modification process. This will allow all agencies the opportunity to review the monitoring data and determine if project modifications are needed. At the present time, maintenance of the beach fill is anticipated every 4 to 5 years depending on the capabilities and desires of the Town of North Topsail Beach.

Tom Barbee discussed the revised Integrated Natural Resources Management Plan being developed for Camp Lejeune. **Tom** indicated that the primary purpose of the plan is to guide management of natural resources in a way that effectively supports military training on the installation, including Onslow Beach. The NRMP is being developed in cooperation and agreement with the USFWS, NCWRC, and NCDMF. Camp Lejeune hopes to avoid critical habitat designations on the base as a result of implementing the plan. Proposed placement of beach fill on Onslow Beach will have to be carefully evaluated with respect to the INRMP, during the alternatives development process.

Mickey asked **Erin Hague** if she had mapped SAV's. **Erin** indicated that the reference aerial photo map was developed to the standards to allow identification of potential SAV's, however, analysis of the aerial photos has not been accomplished to date. Preliminary evaluations of the aerial photos do not show any evidence of SAV's but she pointed out that that doesn't mean they don't exist in the area.

Erin Hague summarized the preliminary results of the hard bottom dive surveys she has conducted over the last few months. Dives were conducted in June, August, and October. Visibility was a problem during all three months, particularly close to New River Inlet. Conditions did improve slightly in October, but was still usable to document hard bottoms in some areas, particularly offshore of the northern fill area, even though she is sure they exist.

During the June dive, she found hard bottoms about 1,000 feet offshore of baseline station 1050+00 by feeling along the bottom but could not actually see the area. She estimated the vertical relief to be 1 to 2 feet. Hard bottoms were also identified 1,000 feet offshore between baseline stations 850+20 and 850+80 with about 3 feet of vertical relief. The feature extended

offshore but she could not tell how far. Other hard bottom areas identified in June included an area northwest of the proposed borrow area roughly 6,000 feet offshore and an area 3,000 feet west of the west boundary of the borrow area. CPE was able to determine the coordinates of the Natural Heritage Area situated off the north end of North Topsail Beach. A search of the Natural Heritage Area revealed a small linear feature approximately 15 feet wide running east-to-west along the northwest corner of the area.

Due to the poor visibility, CPE discussed revising the hard bottom plan with National Marine Fisheries (**Ron Sechler**) and the NC Division of Marine Fisheries (**Fritz Rohde**) on August 31. The revised plan would reduce the sample size from a 1-meter square to a 0.25-meter square in areas of low visibility. Since visibility is generally better farther offshore, the smaller sample size would only be used near shore with the 1-meter square sample used in the offshore area or when visibility is at least 3 feet. **Erin** pointed out that in order to sample the 1-meter square; she needs 3 feet of visibility. Reducing the sample to 0.25 meter-square would require less visibility. **Howard Hall** had noted a typo error in the revised plan that indicated that the sample size would be reduced to 0.25 square meters, which would mean that the sample area was only 5 cm on a side. This was corrected in the revised plan.

To date, CPE has identified about 260,000 sq meters of hard bottom in the near shore area of the Central fill section and over 1,000,000 sq meters of hard bottom farther offshore. Based on the sampling protocol, which calls for sampling 1/10,000 of the hard bottom area, 26 sq meters should be sampled near shore and 165 sq meters offshore. The hard bottom area off the northern fill section could not be sampled due to low visibility. **Erin** suggested that the hard bottoms in northern fill section could be identified by re-running the side scan sonar. An explanation of how to interpret the side scan results for hard bottoms will be provided by CPE geologist during the December meeting.

A hard bottom sampling transect is 60 meters in length with sample areas observed every 2.5 meters. **Erin** showed an example of sampling a 1-meter square area using a PVC pipe to outline the area. All organisms are recorded in each 1-meter square area and a video of the transect taken. She also showed a video of the site designated as the Corps of Engineers site, located northeast of the proposed borrow area. Video was also obtained in the near shore area opposite the Highway 210 Bridge (off baseline station 850+80).

One observation from the October dives was the prevalence of a mud or silt layer throughout the area. **Erin** was not sure of the origin of the silt, but could have come from freshwater runoff following Hurricane Ophelia. She noted that local divers had observed the same silt layers much farther offshore. The silt layer was so thick that the relief of some hard bottoms observed in the earlier dives in June and August had been reduced from 4 feet down to 2 feet.

Erin and **Craig Kruempel** explained the BEAMR (Benthic Ecological Assessment for Marginal Reefs) documentation system developed by CPE and used for the work off North Topsail Beach. BEAMR records all organisms existing on the surface in each sample area, sediment types, sediment thickness, and the percent cover of the various species.

Craig indicated that all sample sites are located by DGPS and can be reoccupied for future sampling.

All of the hard bottom information collected to date will be summarized in a report. The report should be available in early January 2006.

Mickey raised the issue regarding buffer areas around the hard bottom areas located near the proposed borrow area. **Doug** referred to the offshore mining regulations that specify a 500 meter buffer around high relief hard bottoms where high relief hard bottoms are defined as 0.5 feet of vertical relief over a horizontal distance of 5 meters. **Doug** did mention that some leeway exist for issuing a permit deemed to be in the public interest. However, the applicant must minimize potential impacts. Also, **Doug** pointed out that the intent of the regulation is to protect all hard bottoms, not just high relief. He emphasized the need to minimize impacts to all hard bottom areas not just the ones defined as high relief. **Doug** indicated that permit decisions will be made in conjunction with other agencies and that he is willing to work with the PDT to develop a consensus on ways to minimize or avoid significant impacts. **Mickey** asked if dredging equipment could be one of the considerations. **Doug** said dredging methodologies could be a factor but could not comment on that at this time.

While dredging near the hard bottom areas is a concern, **Doug** was also concerned about the possible offshore movement of material from the beach fill areas that could migrate onto the hard bottom areas located near the toe of the fill.

Michelle Duval asked if the SBEACH model could be used to determine the offshore limit of sediment movement and if the model included hard bottoms. **Jarrett** said that SBEACH does include a hard bottom feature, but he did not use it in the evaluation since he was only concerned with storm impacts in the upper portions of the profile and the potential impacts of storms on development. The SBEACH model is used to obtain relative comparisons between the existing condition and with project conditions. The results should not be interpreted as accurately representing "real-world" changes. **Jarrett** indicated that we should be able to get some indication of the depth of the active profile by comparing offshore profiles obtained by the Corps of Engineers in March 2002 with duplicate profiles obtained by CPE in August 2005. An evaluation of the profile changes will be made and reported in future meetings of the PDT. The analysis will also be included in the EIS.

The next PDT was scheduled to be around 14 or 15 December 2005. **Mickey** will coordinate a final date and send it out to the PDT. The December meeting will review the results of the borrow area investigations by CPE, discussion of alternatives, and begin the development of monitoring plans. **Erin** will work with **Sue Cameron** in the interim to develop a bird monitoring plan similar to Bogue Inlet. **Erin** pointed out the need to define the monitoring requirements as soon as possible in order to obtain at least 12 months of data prior to construction.

List of PDT Participants
9 November 2005

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Minutes
14 December 2005 PDT
North Topsail Beach Town Hall

Mickey Sugg said the meeting would focus on the results of CPE's sand search followed by a discussion of project alternatives.

Tom Jarrett referred to the handout provided to the PDT which described 3 beach fill options under consideration. The options include: berm only, 15-foot dune, and a 20-foot dune. **Jarrett** mentioned that the CD of the Engineering Report, provided earlier, contains an analysis of the without project condition. The without project condition in the Engineering Report attempted to replicate actions being taken today by the individual property owners and includes the use of temporary sandbag revetments to protect threatened structures and infrastructure and the eventual relocation and/or demolition of the threatened structures. The economic costs associated with this alternative are presented on the CD. The economic impacts of the three beach fill options compared to the without project condition are included in the handout.

Fritz Rohde asked if the potential impacts of the three beach fill options on the near shore hard bottoms are addressed. **Jarrett** indicated that the handout includes a table comparing the distance from the baseline to the closure depth of the beach fill options to the offshore distance to the rock outcrops at each 1,000-foot beach profile station. In general, the closure depth for the berm only option and the 15-foot dune section is approximately -20 feet NGVD while the closure depth for the 20-foot dune section would be around -22 to -24 feet NGVD. The use of these closure depths appear to be in order based on theoretical closure depths computed using relationships published in the Corps of Engineers Coastal Engineering Manual (CEM). The CEM equations resulted in theoretical closure depths ranging from -19 to -22 feet. Also, comparison of the March 2002 profile survey conducted by the Corps of Engineers (COE) with a CPE survey of the same profiles made in August 2005 resulted in closure depths ranging from -12.5 feet NGVD to -28 feet NGVD with an average closure depth of -20 feet NGVD. Mickey asked if CPE could provide a map showing the location of the profile lines. Jarrett said the Engineering Report includes such a map.

Mickey introduced **Jeff Andrews** and **Ken Wilson** who would summarize the results of the offshore sand search.

Jeff referred to jars of sand samples provided on the display table. The samples include both wet and dry samples of the same material to provide some idea of how the material would look during and following placement. **Jeff** said that the borrow area includes some areas covered with a 0.5 to 1-foot thick layer of rubble consisting of shell hash and small rocks. There are also some rather large rocks scattered on the surface.

The investigation included bathymetric surveys, side scan sonar, seismic, jet probes, and vibracores. Also, the COE has conducted some cultural resource surveys over portions of the borrow area, but since the COE did not cover the whole area under consideration, additional cultural resources survey will have to be done to cover the entire borrow area.

Jeff showed a slide of the August 2005 bathymetric survey of New River Inlet with the location of jet probes, vibracores, and magnetometer anomalies superimposed. **Jeff** explained that the jet probes provide a good preliminary indication of the type of subsurface material. Jet probes are obtained by geologist/divers jetting a 20-foot long PVC pipe into the bottom and observing the

character of the material washed to the surface. Samples representing the undisturbed surface material and material from the mid-depth of the probe and the bottom of the probe are obtained from the sediment mound that forms around the probe. Detailed information on the characteristics of the inlet material was obtained from 5 vibracores that penetrated 20 feet below the bottom. The 3-inch diameter vibracore tubes are split, photographed, and logged. Samples for grain size analysis are obtained at regular intervals or from layers with distinct characteristics.

Jarrett stated that channel widths ranging from 300 feet to 500 feet are being evaluated for New River Inlet with the depth of each channel width equal to -15 feet MLLW. Depending on the size of the channel, the possible cultural resource targets in the inlet may be avoided, however, additional investigations may be necessary to determine if the depth of the targets below the surface or if the targets are of historical significance. The volume of material that would be removed to construct the various channels range from 400,000 cy for the 300-foot wide channel to around 630,000 cy for the 500-foot channel.

The offshore sand search if focusing on the area located 1 to 2 miles offshore near the southern limits of the CBRS area. This is the area identified from previous vibracore and seismic surveys obtained by the COE. An area located offshore of New River Inlet was also considered but has been eliminated due to the presence of hard bottoms. Evaluation of the potential offshore borrow area began with an analysis of the side scan survey data obtained by UNCW, COE, and CPE and the seismic surveys conducted by the COE and CPE. The seismic lines were initially spaced at 500-foot intervals but once the area became more defined, additional seismic lines spaced at 250-foot intervals were obtained by CPE. The seismic surveys found an old buried channel in the potential borrow area with depths of 25 to 30 feet below the bottom surface. This main channel was bordered by shallower "over bank" areas with depths ranging from 10 to 12 feet below the bottom surface.

Jeff explained that the boundaries of the borrow area were initially defined by side scan sonar surveys of the area. However, ground truth, obtained by the CPE divers, indicated that some areas originally thought to be hard bottoms were actually surface rubble and shell hash. The "ground truth" data obtained by the dives were used to reinterpret the side scan records and redefine the hard bottom areas. With the hard bottom boundaries redefined, the boundaries of the potential borrow area were redrawn using a 400-foot buffer between the hard bottom areas and the top of cut as well as a minimum depth of cut of 4 feet.

The COE and CPE vibracore data obtained for the potential borrow area was used to define depths of cut throughout the borrow area with depth of cuts ranging from a minimum of 4 feet to a maximum of 20 feet below the bottom surface. The material in the deeper portions of the old channel was found to be finer than the material deposited in the shallow "over bank" areas. **Jeff** divided the potential borrow area into 4 sub-areas. Area 1 contains about 3 million cy of material with an average grain size of 0.17 mm; Area 2 has 900,000 cy with an average grain size of 0.21 mm; Area 3 has 500,000 cy with an average grain size of 0.24 mm; Area 4 contains 1,300,000 cy with an average grain size of 0.24 mm. The total available volume is 5.8 million cy with an average grain size of 0.19 mm. The average silt content in the borrow area is 6.6%. Note that the native beach mean grain size is around 0.24 mm with a silt content of 3.28%.

The depth of cut is presently being limited to 20 feet based on existing vibracore data while the seismic records show much deeper deposits. Once the area is initially dredged, additional vibracores can be taken to determine the characteristics of the material below the 20-foot cut

line. If the material lying below the initial cut is compatible with the native beach, it could be used during subsequent renourishment operations.

Fritz asked if he could be furnished with a map that showed the hard bottom areas along with the proposed boundaries of the borrow area. **Craig Kruempel** said that CPE would prepare a simplified version of the map by eliminating the side scan sonar data. **Tom Barbee** wanted to know the surface area of the proposed borrow area. **Craig** indicated that the revised map would include the dimensions and estimated surface area of the proposed borrow area.

Jeff showed examples of how material can be screened to remove coarse material. Screens can be used with both hopper dredges and pipeline dredges. If screening is done, a proper disposal area would have to be identified. Also, the screening process reduces the production rate of the dredges.

There was some discussion on the control needed to assure that the dredge stayed within the boundaries of the borrow area. **Jeff** and **Craig** pointed out that modern dredges are equipped with DGPS (differential geographic positioning systems) that can pinpoint the location of the dredge cutter head (pipeline dredge) or drag arm (hopper dredge) within a few feet. Also, the position of the dredge can be transmitted back to the office so that the location of the dredge can be monitored in essentially real time. In the absence of the real time data, the dredger is required to submit daily reports giving the location of each cut. **Jeff** showed some examples of dredge cuts made off Delray Beach, FL in 1973 versus more recent cuts made in 2002. The 1973 cuts were very irregular with the depth of the cuts subject to the whims of the dredger. The more recent cuts were very uniform with the depth of cut controlled through continuous monitoring.

Michelle Duval asked if the 1973 cuts had been monitored. **Craig** said they had not, but based on existing depths in the old cuts, very little infilling has occurred. **Ted Wilgis** asked about the basis for the 400-foot buffer. **Craig** said that the 400-foot buffer was the result of negotiations in Florida projects with Florida resource protection and National Marine Fisheries Service Personnel and seemed to work well in Florida. CPE has used the 400-foot buffer for the North Topsail Beach project as a starting point.

Ray Livermore questioned the labeling of the borrow area. **Jarrett** said it was in the same general area as PBA-B identified in the feasibility report but the actual shape of the borrow area has changed based on the redefinition of the hard bottom areas from the diver surveys and side scan data. CPE will provide the Corps of Engineers and other members of the PDT with a map showing the proposed boundaries of the borrow area and the location of the hard bottoms.

Michelle question what impact of a 500 meter buffer would have on the borrow area. **Jarrett** said that the NC mining law does not apply to the use of the offshore areas for beach nourishment purposes. **Doug Huggett** acknowledged that the NC mining law does not apply; however, the Coastal Resource Commission has a different definition of mining. The applicable rule is given in 15A NCAC 7H.0208(b)(12) "Submerged Lands Mining" ***(Note: For reference, the Submerged Lands Mining rule is attached to the end of these minutes)***. The rule does specify a 500 meter buffer for high relief hard bottoms where high relief "is defined as relief greater than or equal to one-half meter per five meters of horizontal distance." **Doug** pointed out that the rule does allow for mitigation in instances where the 500 meter buffer cannot be accommodated or if the project provides a public benefit. **Doug** said that is probably the direction the State will take with the North Topsail Beach project. **Doug** indicated that the applicant would have to demonstrate that adherence to the 500 meter buffer would "kill" the

project and demonstrate that an alternative buffer would provide a reasonable level of protection to the hard bottoms.

Jarrett asked **Fritz** what kind of information he would need to determine the size of an alternative buffer. **Fritz** said he would like to see information on how the 400-foot buffer was derived in Florida and see some data that demonstrates that the 400-foot buffer has worked. CPE agreed to assemble the information. **Fritz** emphasized the importance of rubble that is contiguous to the hard bottoms. These types of bottom features are important to sea bass. He stated sea bass are under serious stress.

Howard Hall asked if there was a way to measure sedimentation on the hard bottoms during the construction activity. **Craig** said the only sure way would be through visual observations by divers, assuming good visibility. Attempts have been made to place jars or pans to collect sediment but these measures have been unreliable. **Doug** suggested monitoring of the hard bottoms during construction would be a candidate for a research project and support of such research could be considered as a possible mitigative measure. The results of the research may not impact this project but could provide valuable information for future projects. **Howard** asked if there is a way to remove sediment from the hard bottoms with a vacuum or other means. **Craig** said attempts to remove the sediment could actually cause more damage by filling in the nooks and crannies in the formation.

Ted Wilgis asked if the 400-foot buffer is not sufficient, do we start over. **Mickey** said the purpose of the PDT was to resolve this question prior to producing the EIS. Hopefully some agreement can be reached, if not, the permit cannot be issued. Ideally, the project can be designed to eliminate or minimize impacts on the hard bottom. Since adherence to the 500 meter buffer is not likely, we will be looking at some mitigation measures. Creation of artificial reefs is one option or perhaps other mitigation measures that would not necessarily be "in kind." **Doug** said habitat enhancement should be considered and artificial reefs are a possibility. **Craig** suggested the possible creation of a bird habitat on the south side of New River Inlet that had been previously mentioned by **Sue Cameron**.

Doug said that we are talking about mitigation of impacts to the hard bottom communities. **Mickey** said that first we need to identify the known impacts. **Craig** said tendency in Florida is to move away from the creation on additional reefs. They are looking at other mitigative measures such as controlling storm water runoff or relocating anchorage areas. **Mickey** said we may have an opportunity to do the project without impacts to the hard bottoms. **Craig** agreed that was the direction we are heading. **Doug** emphasized if can't adhere to the 500 meter buffer, then some form of mitigation will be necessary. **Mickey** said need to consider impacts of the fill material as well which could move seaward and cover some of the near shore hard bottom outcrops.

Fritz asked if mapping of the hard bottoms could be considered as a mitigation measure. **Mickey** said that would be possible, pointing out that this is the only project in North Carolina that has had to deal with the hard bottom issue.

Ken Wilson provided a presentation on how to interpret side scan sonar data. He explained the images received from the side scan sonar depend of the reflective properties of the bottom material. Sand tends to absorb more of the signal so do not get a strong return whereas shell hash and rock outcrops are highly reflective. **Ken** mentioned that new side scan sonar technology is now available that could potentially provide clearer images if questions still persist

with the existing data. The new technology was used in the offshore areas and could be used for the near shore areas if there are some lingering questions on the boundaries of the hard bottom area.

The side scan sonar data was first interpreted to define what appeared to be hard bottom area. **Ken** noted that the interpretation of the side scan data is based on the actual record, not the mosaic shown on the slide. **Ken** explained that the lighter areas in the side scan image indicate sand deposits while the darker areas are either outcrops or rubble. The rubble areas were generally lumped with the hard bottom areas. The environmental section of CPE sent divers down to determine the characteristics of the bottom material in selected areas. This ground truth information was used to reinterpret the side scan data and the hard bottom boundaries redrawn.

With regard to the need to do additional side scan surveys, **Fritz** said he did not see a need if the existing data was considered to be adequate. **Jeff** said he believe the existing data is good. **Fritz** asked if additional archeological data is to be obtained in the borrow area, what would be the cost to obtain additional side scan data in that area. **Jeff** said it would add perhaps a day to a day-and-a-half to the effort. Also, there would be some office time needed to interpret the data.

Ted Wilgis asked if all hard bottoms have the same value. **Fritz** responded that all are equal and even the shell hash or rubble areas are important. **Mickey** asked if shell hash areas are considered as Essential Fish Habitat. **Fritz** said they could be if it is contiguous with hard bottoms.

Following a brief break, **Mickey** began the discussion of alternatives. The defined purpose of the project is to protect development and infrastructure along the ocean and inlet shorelines of North Topsail Beach from erosion and storms. **Jarrett** said the planning period for the project is 30 years; however, future actions will depend on the capability of the town. **Doug** mentioned that State permits would only cover the initial project. Future actions, such as renourishment or channel maintenance, would be subject to a permit review using monitoring data from the initial effort. This could result in the issuance of a new permit or modification of the project based on the monitoring data.

With regard to alternatives, **Mickey** emphasized the alternatives should be reasonable and practicable in terms of economics, technology, and environmental impacts. For example, we do not want to look at alternatives that are 8 times more costly.

Howard Hall asked if the position of the beach would be static for the beach fill options. He was concerned that continued sea level rise could require the beach to be moved landward, if not, steeper slopes could possibly develop. **Jarrett** said the position of the beach fill would be fixed over the 30-year planning period. He cited the Wrightsville Beach and Carolina Beach projects as examples of the static position of the project. Both projects have been in existence for almost 40 years and have been maintained in the same position without any negative performance consequences. Presumably, sea level has continued to rise over the last 40 years. **Jarrett** acknowledged one possible impact would be a slight increase in the height of the natural berm which depends on tide and wave action, but even this seemed unlikely.

Mickey said the EIS will contain a section describing the alternative with the economic, environmental, and possible navigation impacts presented for all alternatives. This should lead to the determination of the project that best addresses the project purpose. Included in the alternatives will be the no action alternative which will identify the economic and environmental

impacts if nothing is done. **Mickey** believed that the no action alternative would result in the loss of 30 to 40 structures ***(The actual estimate included in the Engineering Report is 161 structures either relocated or demolished over the 30-year analysis period)***.

Note: The tape stopped at this point resulting in an approximate 15 minute gap (Tom Jarrett. There was some discussion over the authority that would permit the implementation of a buy-out option. Authority notwithstanding, the buy-out option will be evaluated to determine an order of magnitude cost.)

The ensuing discussion of alternatives included relocation, abandonment, buyouts, some combination of beach nourishment with relocation/abandonment, beach fill options, channel options, beach nourishment using truck haul, hard structures, and inlet sand management.

Doug suggested combining approaches rather than options within a certain approach. For example all beach fill options could be lumped into one approach and evaluated accordingly. He said that once the impacts of beach fill are identified, then the size of the fill could be tweaked.

With regard to the buyout option, **Jarrett** suggested buying all of the properties located within a certain distance of the existing shoreline with the distance equal to the width of the beach fill that would be constructed under the beach nourishment option. For example, if the beach fill would widen the beach by 75 feet, all structures located within 75 feet of the existing shoreline would be bought and removed leaving an additional 75-foot buffer between the remaining ocean front structures and the shoreline. The level of storm damage protection provided to the remaining structures would be comparable to the level of protection that would be provided to the existing ocean front structures by the beach fill.

Howard Hall suggested a phased or orderly buyout or relocation of structures.

Mickey indicated that some of the alternatives could be eliminated with only a cursory analysis. For example, hard structures are prohibited by NC law while the buyout option would probably be cost prohibitive making these options impracticable. In each case, early discussion in the EIS could eliminate these alternatives from detailed consideration.

Shelia Cox mentioned some concern about the timing of construction indicating a desire to have the project completed all at once. The dredging window runs from the middle of November to the end of April.

End of Minutes:

Following is a summary of the alternatives that will need to be addressed in the EIS. Note that this is a preliminary list and is subject to change and/or additions.

1. No Action– This alternative would be based on the actions presently impacting North Topsail Beach including temporary sandbag revetments to protect threatened structures and infrastructure, periodic disposal of navigation maintenance material on portions of the shoreline, relocation of threatened structures, and demolitions and/or abandonment of threatened structures. *The No Action is how the area is currently managed (sandbags, beach bulldozing, dune construction…., delete the term “Without Project”, and label it as “No Action”

2. Beach Nourishment without Relocation of the New River Inlet Bar Channel – Under this alternative, the beach fill would end approximately 3,000 feet south of New River Inlet. In the absence of the channel feature, development located 3,000 feet south of New River Inlet would likely be lost over the 30-year analysis period. The beach nourishment alternative will include (a) sand source solely from the off-shore borrow site, (b) sand source from upland borrow site only using truck haul and (3) combination of both offshore and upland source.

The Town of North Topsail Beach plans to use an upland source near the town of Wallace to rebuild the dunes damaged by Hurricane Ophelia. Approximately 58,000 cubic yards of material will be trucked in at a total cost of $1.5 million. This is equivalent to a cost of $26/cy.

3. Beach Nourishment with Relocation of the New River Inlet Bar Channel and with maintenance ("applicant's preferred alternative") – Based on the geomorphic analysis of New River Inlet, times when the inlet bar channel is located close to the north end of North Topsail Beach and oriented essentially perpendicular to the adjacent island shorelines, the north end of North Topsail Beach generally experiences accretion. While there is no way to provide a 100% guarantee that north end shoreline will respond favorably to a new channel position and alignment, channel realignment is the only available engineering tool that would provide some degree of possible protection to the development at the north end of town. Under this alternative, the beach fill would be extended to the south shoulder of New River Inlet. Repositioning of the inlet channel would require monitoring of the Onslow Beach shoreline to determine if the new channel negatively impacts that beach. If so, the Town of North Topsail Beach could be required to mitigate for the additional erosion

4. Beach Nourishment with Relocation of New River Inlet Bar Channel without maintenance. The ocean bar channel through New River Inlet would only be relocated once and then allowed to move in response to wave, current, and tide conditions. All of the material needed to maintain the beach fill would be obtained from either offshore borrow areas or from upland sources, similar to Alternative 3.

5. Inlet Sand Management only, (no offshore borrow site)– The channel through the ocean bar of New River Inlet would be repositioned and maintained periodically to keep the channel in its new position. Material from the initial channel relocation would be used to nourish a small portion of North Topsail Beach. The material removed to periodically reposition the inlet channel would be used to nourish portions of the North Topsail Beach shoreline. This option does not include any large scale initial beach fill. However, this alternative will consider extending the channel from the New River Inlet gorge through Cedar Bush Cut to the intersection with the Atlantic Intracoastal Waterway as well as supplemental fill from upland sources.

6. Hard Structure – A terminal groin could be constructed on the south side of New River Inlet to create an accretion fill south of the groin. Depending on the length of the groin, the fillet could extend several thousand feet south of the structure. Since hard structures are prohibited by NC law, this option will be eliminated early in the EIS.

7. Buyout (could be termed the Relocation & Abandoned Alternative) – All structures and undeveloped properties located within a certain distance of the existing shoreline, whether they are presently threatened or will be threatened in the near future, would be purchased and the structures either relocated or demolished. An assessment of the cost of the buyout option will be

made and if it proves to be economically impracticable, it will not be given detailed consideration in the EIS.

(Mickey's Comment: "We talked about having 8 alternatives, but I think there wasn't a final conclusion on whether the Relocation & Abandoned and Buyout program will be separated or combined. I think it would be better to combine the two."

NC Administrative Code Relative to Submerged Lands Mining

The following was extracted from 15A NCAC 07H.0208 USE STANDARDS

(12) "Submerged Lands Mining"

(A) Development Standards. Mining of submerged lands shall meet the following standards:

(i) The biological productivity and biological significance of mine sites, or borrow sites used for sediment extraction, must be evaluated and a reasonable protection strategy for these natural functions and values provided with the state approval request of permit application.

(ii) Natural reefs, coral outcrops, artificial reefs, seaweed communities, and significant benthic communities shall be avoided.

(iii) Mining shall avoid significant archaeological resources as defined in Rule .0509 of this Subchapter, shipwrecks identified by the Division of Archives and History; and unique geological features that require protection form uncontrolled or incompatible development as identified by the Division of Land Resources pursuant to G.S. 113A-113(b)(4)(g).

(iv) Mining activities shall not be conducted on or within 500 meters of significant biological communities, such as high relief hard bottom areas. High relief is defined for this standard as relief greater than or equal to one-half meter per five meters of horizontal distance.

(v) Mining activities shall be timed to minimize impacts on the life cycles of estuarine or ocean resources.

(vi) Mining activities shall not affect potable groundwater supplies; wildlife, freshwater, estuarine, or marine fisheries.

(B) Permit Conditions. Permits for submerged lands mining may be conditioned on the applicant amending the mining proposal to include any measures reasonably necessary to insure compliance with the provision of the Act and the guidelines for development set out in this Subchapter.

(i) Monitoring shall be required to the extent necessary to ensure compliance with all applicable development standards. Implementation of monitoring is the responsibility of the applicant.

(ii) A determination of the necessity and feasibility of restoration will be made as part of the permit, or consistency review, process. Restoration will be deemed necessary where it will facilitate recovery of the pre-development ecosystem. Restoration will be considered feasible unless, after consideration of all practicable restoration alternatives, it is determined that the adverse effects of restoration outweigh the benefit of the restoration on estuarine or ocean resources. If restoration is determined to be necessary and feasible, then the applicant shall be require to submit a restoration plan to DCM for approval prior to the initiation of any mining activities.

(C) Dredging activities for the purpose of mining natural resources must be consistent with the development standards set out in the Rule.

(D) Mitigation. Where mining cannot be conducted consistent with the development standards set out in this Rule, the applicant may request mitigation approval under 15A NCAC 7M .0700.

(E) Public Benefits Exception. Projects that conflict with these standards, but provide a public benefit, may be approved pursuant to the standards set out in Subparagraph (a)(3) of this Rule.

List of PDT Participants
14 December 2005

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Minutes
8 February 2006 PDT
North Topsail Beach Town Hall

Mickey Sugg opened the meeting and introduced new attendees, **Anne Deaton**, NC Division of Marine Fisheries and **Dick Macartney**, Chair, North Topsail Beach Beach Nourishment Committee. Also in attendance was Alderman **Richard Peters**, North Topsail Beach. (A complete list of attendees is attached to the end of these minutes.)

ALTERNATIVES

Mickey began a discussion of alternatives developed at the last PDT meeting. He referred the group to the minutes of the 14 December 2005 PDT meeting which had a list of the alternatives. Initially, 8 alternatives were considered but **Mickey** felt that the relocation and abandon alternative was essentially the same as the buy-out alternative, so they were combined leaving 7 alternatives.

Alternative 1: No Action – Manage the shoreline as it is now which includes sandbags for threatened structures, dune construction, and sand scarping.

Alternative 2: Beach nourishment without relocation of the New River Inlet bar channel.

Alternative 3: Beach nourishment with relocation of the New River Inlet bar channel followed by future maintenance of the bar channel (Applicant's preferred alternative).

Alternative 4: Beach nourishment and relocation of the New River Inlet bar channel without future maintenance of the bar channel.

Alternative 5: Inlet sand management. Supplemental beach fill would be obtained from upland sources with no beach fill material obtained from the offshore borrow area.

Alternative 6: Hard structures.

Alternative 7: Buyout (Relocation and abandon).

Tom Jarrett described the buy-out option he was considering and asked for some guidance from the PDT as how best to proceed. **Jarrett** said the buy-out option he was looking at would provide 30-years of protection for some buildings. The properties that would be bought-out include all properties located within a zone defined by the width of the beach fill plus 30-years of shoreline erosion. This would equate to a 160-foot strip in the Central Section and 200 feet in the North Section. The rational for these zones is a beach fill project would provide some initial widening (65 feet in the Central Section and 95 feet in the North Section) and would stabilize the shorelines in these Sections for 30 years. **Jarrett** indicated that this approach would basically wipe-out most of the town's tax base and was not practical. **Anne Deaton** believed that this approach would over estimate the cost of the buy-out alternative.

Mickey said he was thinking the buy-alternative would only be applied to buildings when they become threatened. He suggested that the buy-out option should not include temporary sand bags; rather, the threatened buildings would be bought-out once they become threatened. **Howard Hall** said he was also thinking of a more formal phased buy-out plan rather than a one-time purchase of all properties. The buy-out of properties would only occur when the structure becomes threatened. **Jarrett** explained that the analysis he is doing for the No Action Alternative seems to come close to the phased buy-out alternative. With the No Action Alternative, once a building becomes threatened, the owner of the threatened building would probably protect the structure with temporary sand bags. The temporary protection would last for 2 to 5 years depending on the size of the structure. Once the 2 to 5 year period is over, the property owner would either move the building to a new location or demolish the structure.

Jarrett said that Howard's suggestion of a phased buy-out could possibly be addressed in 5 to 10 year increments rather than a one-time purchase of all properties within the buy-out zones. **Dick Macartney** pointed out that there are no second rows along most of North Topsail Beach and the buy-out option would eliminate about ½ of the Town's tax base.

Ron Sechler asked if the road would be threatened. **Jarrett** responded that a portion of New River Inlet Road in the Galleon Bay area would become threatened in about 10 years and would have to be relocated in 20 years assuming some temporary protection could be provided with sand bags. **Ron** asked if New River Inlet Road is a State maintained road. **Shelia Cox** confirmed that New River Inlet Road is state maintained (New River Inlet Road is designated as SR 1568).

Justin McCorcle recommended that the buy-out option developed by the Corps of Engineers for the Town of Topsail Beach be reviewed and applied to North Topsail Beach. He suggested that since the EIS for North Topsail Beach could be one of possibly five such documents developed for Topsail Island, all of the documents should look pretty much the same and contain similar approaches. **Jarrett** said **Mickey** had provided CPE with copies of the Topsail Beach GRR (General Revaluation Report and EIS) and CPE would review the buy-out option in the GRR and apply it to North Topsail Beach if applicable.

Mickey indicated that the buy-out option may not apply to the north end that lies adjacent to New River Inlet. **Jarrett** said that there are currently 8 condemned buildings south of the inlet. The only hope for protecting this area is with the relocation of the New River Inlet bar channel. This protection would depend on the recovery of the ocean shoreline south of the inlet in response to the predicted reconfiguration of the inlet's ebb tide delta.

Howard Hall questioned the purpose of the North Topsail Beach project which is to preserve the town's tax base and infrastructure compared to Federal projects which are for storm damage reduction. **Jarrett** pointed out that they are basically one in the same. While the Corps is required by Federal Law to only include storm damage reduction benefits (including damages associated with long-term beach erosion) the Corps cannot include local benefits such as land enhancement, impacts on sales and room accommodation taxes, and preservation of the local tax

base. However, the loss of buildings and properties associated with storms and long-term erosion translates into a loss of tax base and ad valorem taxes. **Justin** said that the purpose of the project is to maximize benefits by keeping as many structures in place as possible. **Jarrett** indicated that the economic analysis for the non-Federal North Topsail Beach project is primarily for the town's benefit to help it make critical decisions on the economic viability of a beach nourishment project.

Dick Macartney said that the 2006 reevaluation of property values for North Topsail Beach resulted in a 379% increase in property values in the last 5 years. Presently, the tax base for North Topsail Beach is approaching $2 Billion which is larger than the tax base for Jacksonville, NC. **Anne Deaton** question if the new appraisal was final or would it be revised. **Dick Macartney** said there would be some appeals but the appeals would probably not have a substantial impact on the overall reevaluation.

Richard Peters asked if there was some way to show the impact of the No Action alternative on non-ocean front properties. **Jarrett** said that if the town's operating budget remains the same, the reduction in ad valorem taxes resulting from the loss of ocean front properties would have to be offset by an increase in the overall tax rate applied to the remaining properties. Presently, the tax rate for North Topsail Beach is $0.45/$100 evaluation with the tax rate for Onslow County equal to $0.67/$100 evaluation. A reduction in the overall tax base would result in a proportional increase in these tax rates. **Jarrett** said he will attempt to compute the potential impact on non-ocean front properties.

Mickey asked the PDT members to email him any other thoughts on these or other alternatives.

INCLUSION OF SOUTHERN 3+ MILES

Mickey mentioned that the Town of North Topsail Beach is considering the possible inclusion of the southern 3+ miles of the town's shoreline in the non-Federal project. This is based on the timeline for the Federal project that would cover the southern 3+ miles. At the present time, implementation of a Federal project along the southern 3+ miles could be delayed until 2012 or possibly even later. **Howard** asked if inclusion of this area would result in a permit that would cover all of the town's 11 miles of ocean shoreline. **Mickey** said that it would. In response to **Mickey's** question, **Shelia Cox** said the Board of Aldermen would consider adding the 3+ miles during the next Board meeting (scheduled for 2 March 2006).

Mickey questioned if the addition of the 3+ miles would require additional study or change the approach. **Justin** cautioned that the addition of the 3+ miles to the non-Federal project could have implication on the economic justification for the Federal project in this area. In this regard, if a large beach fill is placed along the southern 3+ miles, it could eliminate the need for a Federal project. **Mickey** said that the approach should be to provide a limited amount of fill that would not change the without project condition on which the benefits for the Federal project are based. Theoretically, this could be accomplished by providing only the volume of fill required to maintain the status quo until 2012 or whenever the Federal project is expected to be constructed.

Mickey asked if the inclusion of the southern 3+ miles would delay the non-Federal project for the Central and North Sections. **Jarrett** responded that while some additional study may be needed, particularly with regard to near shore hard bottoms, if the Town makes its decision in March, there should be enough time to role the south section into the EIS. However, if we run into problems, we could proceed with the Central and North Sections and add the South Section with a supplemental EIS. **Richard Peters** cautioned that without the south section, the project may not be looked on favorably by the citizens of North Topsail Beach.

Someone questioned (I could not determine who asked this) if there was concern with the adequacy of the offshore borrow area. **Jarrett** noted that the offshore borrow area identified for North Topsail Beach is actually outside the area identified by the Corps of Engineers. CPE is aware of the concerns expressed by the Town of Surf City and the possibilities of a shortfall of borrow material needed for the Federal project for Surf City and the south end of North Topsail Beach. **Jarrett** said that CPE will meet with Surf City following the PDT meeting to bring them up-to-date on the plans for the non-Federal project for North Topsail Beach with an emphasis on the offshore borrow area and the differences between the Corps borrow areas and the one proposed for North Topsail Beach.

NAVIGATION

Mickey shifted the discussion to the possible impacts of the project on navigation. He asked **Tom Barbee** if the US Marine Corps used New River Inlet for training or if it ever had occasion to close the inlet for military exercises? **Tom Barbee** said they do not use the inlet for training and have never had reason to close the inlet.

Jarrett said that relocation of the New River Inlet bar channel should not require closure of the existing navigation channel. **Mickey** said that construction of the new channel should be coordinated Corps Navigation Branch. Also, he asked how often the Corps maintains the bar channel. **Jarrett** responded that in years past, the Corps would maintain the channel on 4 or 5 times a year with the annual cost of maintenance around $750,000. **Dick Macartney** said the FY 2007 budget for the Corps of Engineers included $875,000 for New River Inlet and that it was the only inlet in the region that was budgeted. He indicated that the rational was apparently to provide at least one safe harbor entrance for the region.

Mickey asked if the Corps side cast dredge maintenance activity would be for the new channel. **Jarrett** responded that the proposed new channel, which could measure 300 to 500 feet wide at a depth of 15 feet below mean lower low water (MLLW), should provide a reliable channel for at least 2 years if not more. The Corps is authorized to maintain the New River Inlet bar channel to 6 feet below MLLW over a width of 90 feet. While some interim side cast maintenance dredging could be required, this activity would not substantially impact the volume of shoal material expected to be deposited in the new channel.

Ron Sechler questioned the limits of the proposed new bar channel. **Jarrett** said the channel would begin in the inlet gorge (between the south end of Onslow Beach and the north end of North Topsail Beach) which is an area that already has depths in excess of 15 feet below MLLW.

The channel would extend straight out across the ebb tide delta on an alignment that is essentially perpendicular to the alignment of the adjacent shorelines. **Jarrett** confirmed that the proposed channel does not include Cedar Bush Cut, the channel connecting New River Inlet with the Atlantic Intracoastal Waterway. The new bar channel would cross areas that are presently 2 to 5 feet deep. Accordingly, the proposed new bar channel would decrease the shallow water habitat on the existing bar; however, the existing bar channel would be expected to shoal to depths of 2 to 5 feet.

Mickey questioned the frequency and purpose of future maintenance dredging in new bar channel. **Jarrett** said the frequency would be about every 4 years and would serve a dual purpose of maintaining the channel position and alignment and provide a source of beach nourishment material for the North and Central Sections of North Topsail Beach. The intent would be to restore the channel back to its original permitted dimensions. By maintaining the channel position and alignment, the shoreline on the extreme north end of the town is predicted to recovery to approximately the condition that existed between 1963 and 1983, a time when the channel was positioned and aligned close to the proposed channel. This prediction was based on the morphological studies of the inlet performed by **Dr. William Cleary**, UNCW. **Jarrett** emphasized that there is no guarantee that the northern shoreline will fully recover, but maintaining the new channel position and alignment is the only hope for protecting and preserving the town's tax base and infrastructure next to the inlet.

Tom Barbee said the Marine Corps will be looking for the EIS to develop possible impacts of the new channel on Onslow Beach. **Jarrett** said that a preliminary assessment of potential impacts on the littoral sediment budget was included in the feasibility study; however, the analysis will have to be updated in the EIS. Based on this preliminary assessment, the initial proposal included some mitigation beach fill on the south end of Onslow Beach, subsequent discussion in previous PDT meetings disclosed that neither the Marine Corps of the NC Wildlife Resources Commission (NCWRC) is in favor of placing beach fill on the south end of Onslow Beach. The area provides an important habitat for piping plovers and other shorebirds and they do not want the area to be disturbed. **Steve Everhart** indicated that the overwash area on the south end of Onslow Beach is prime piping plover habitat and the addition of beach fill could prevent future overwash episodes. While the area originally proposed for the mitigation fill is north of the overwash area, the mitigation beach fill for Onslow Beach is not presently included in the applicant's preferred alternative. In its place will be beach monitoring surveys to determine project related impacts. Any future mitigation measures to counter observed negative impacts on Onslow Beach would be dictated by coordination with the Marine Corps, the NCWRC, and the US Fish and Wildlife Service.

Tom Barbee said that Marine Corps training is limited to the area north of the South Tower and that the area south of the South Tower is designated as a Special Use area. **Barbee** said he would provide a web link to the Marine Corps' draft INRMP.

PROPERTY OWNERSHIP

The discussion turned to issues related to ownership of any newly created land associated with the project, particularly on the north end. **Mickey** passed out a copy of a letter from State Representative Jean Preston which contained an advisory opinion from the State Attorney General regarding similar issues related to the Bogue Inlet project. **Mickey** summarized the AG opinion that any land raised above mean high water (MHW) as a result of a publicly funded project belongs to the State while actions that promote the creation of land goes to the adjacent property owner.

With regard to 8 structures that are presently uninhabitable on the north end of town, **Mickey** suggested obtaining a survey to locate the position of the MHW line relative to these buildings. If the existing MHW line is under or seaward of the buildings, future recovery of the shoreline could allow the property owners to rebuild. **Justin** pointed out that the dividing line between private and public property is the MHW line. If the MHW line is landward of the ocean front property line, all of that property belongs to the State. If the area accretes, the accreted land would go to the property owner located landward of the lost property. **Mickey** said what he is trying to avoid an issue that could develop 10 years from now should the area recover. If the area did recover, there could be pressure to develop on the newly accreted land. **Ron Sechler** asked what was done in the case of Bogue Inlet. **Mickey** said that each affected property owner was asked to deed a one-foot strip of land along the seaward boundary of his/her property to the town. Accordingly, if land accreted seaward of the one-foot strip, the new land would belong to the Town of Emerald Isle. **Doug Huggett** pointed out that State law is applicable to the ocean shoreline and is not necessarily applicable to inlet shorelines. **Doug** said it appears the dividing line between the inlet shoreline and ocean shoreline is the COLREGS Demarcation Line.

Jarrett indicated that most of the ocean shoreline south of the inlet would be nourished thus making the new land the property of the State. At issue however is the case in which the fill completely erodes exposing the pre-project area. In that instance, **Justin** concluded that the State would lose ownership and the property rights would fall to the landward property owner. There was also some discussion on the pre-project vegetation line and pre-project MHW line that is required under State CAMA rules for beach nourishment projects. **Doug** said the pre-project vegetation line is intended to prevent development from encroaching seaward and providing a false sense of security to upland property owners. **Doug** pointed out that placing sand in an eroding area does not remove the cause of that erosion. The area will still be subject to high erosion rates.

Justin concluded that the best approach could be to have affected property owners sign an easement that includes a clause that would prevent the development seaward of the existing property line. This easement should be obtained from both the ocean shoreline and inlet shoreline property owners even though the inlet shoreline would not receive direct sand placement. **Mickey** suggested that the Town of North Topsail Beach may want to seek its own legal opinion on this issue. Also, **Mickey** asked the town conduct a survey to determine the location of the MHW line in the vicinity of the 8 uninhabitable structures. **Justin** mentioned that for property rights cases, the MHW is defined by an 18.6 year average not simply the high tide

line (also known as the rack line). For the 8 uninhabitable buildings, the MHW line could be under or seaward of the structures, in which case, if the shoreline accreted, the buildings could be reoccupied or rebuilt.

Richard Peters asked, what are the prospects of getting all property owners to agree to sign an easement? **Mickey** said the project permit may depend on assuring no future development on accreted land; accordingly, singing the easement would be in the best interest of the property owners. **Jon Giles** asked if the taper section would be included in the project limits. He said the issue came up with regard to the Wrightsville Beach project which has historically included a taper at the north end of the project. **Jarrett** pointed out that the Wrightsville Beach project is a federally authorized project that has specific limits. The north taper was added as an engineering feature and is not included in the authorized project limits. **Craig Kruempel** pointed out that the permit area for the North Topsail Beach project extends into New River Inlet, so the area in question south of the inlet is included in the permit area.

RECREATION

Mickey asked **Shelia Cox** if the town issued permits for driving on the beach, particularly on the south shoulder of New River Inlet. **Shelia** said that the town does not issue driving permits. **Mickey** said he was trying to identify recreational opportunities and how the project would affect recreation both positively and negatively. The recreational opportunities include the entire shoreline of the town, not just the inlet. **Mickey** mentioned possibly obtaining some information from the fishing pier regarding recreational fishing. **Anne Deaton** said that the NCDMF keeps records of fishing permits by county. Also, the National Marine Fisheries Service conducts annual surveys by phone as well as by visiting fishing piers to acquire information on recreational fishing. She said Doug Mumford of the Washington, NC office is the point of contact. Doug Mumford's phone number is 252-946-6481.

Jarrett clarified that the primary concern with recreation is how the project would impact recreational opportunities. The EIS will not include estimates of recreation benefits. However, the EIS will include impacts on rental income, which is an indirect measure of the importance of recreation on the town's economy.

Howard Hall mentioned that bird watching was a large recreational activity in some areas but he was not aware of any organized activities in the North Topsail Beach area. **Dick Macartney** said turtle watching was also big on Topsail Island noting turtle walks and the existence of the Sea Turtle Hospital on Topsail Island.

Mickey requested an accounting of the number and location of public access points and public parking spaces. **Justin** suggested the Federal studies for Topsail Beach and Surf City-North Topsail Beach could provide some indication of the number of people visiting the beach. **Jarrett** asked **Doug Huggett** if the State had specific criteria on public access. **Doug** said the State does not have any specific criteria like the Corps of Engineers, however, DCM would consider the adequacy of pubic access in its review of the permit, noting that public beach access is a hot item. **Doug** asked **Justin** if the Corps would use its public access criteria in evaluating

the North Topsail Beach project. **Justin** said it would not. However, if justification for a non-Federal project was based on recreation and there is not adequate public access, the Corps would question the analysis.

Mickey asked about SCUBA activity. **Craig** said SCUBA Tech, located on NC Highway 172, takes folks out but generally goes far offshore due to low visibility near shore. **Anne** questioned how the project could impact SCUBA or surfing. **Craig** said the impacts would be focused on the borrow area and how the use of the offshore area would impact both SCUBA and surfing.

Near Shore Hard Bottoms

CPE had provided handouts that showed the toe of the fill relative to the near shore hard bottoms. The toe of fill was defined as the 20-foot depth contour since the 20-foot depth appeared to be the depth at which significant sand transport occurs. **Craig** pointed out that the maps may have erroneously used the 21-foot depth as the toe of the fill rather than the 20-foot depth contour and that this error was caught too late to revise prior to the PDT meeting. In any event, **Craig** said that the 2-dimensional representation of the toe of fill provides a worst-case or conservative estimate of the impacts of the fill on the near shore hard bottoms. **Craig** indicated that this was a preliminary assessment which would be refined once we have a toe-in analysis. The 2-dimensional representation does not indicate it the hard bottoms are covered by a single grain of sand or a foot of sand. **Mickey** said he had asked if there is a way to estimate the depth of fill over the near shore hard bottoms. He noted that he was not sure if it made any difference to the agencies if the depth of coverage was an inch or a foot or if they did not want any fill impacting the hard bottoms. **Jarrett** said CPE could make a stab at determining the theoretical depth of coverage over the near shore hard bottoms.

The CPE maps showed four near shore hard bottom areas being impacted by the toe of the fill (Figures 2a and 2b). The total area shown on the maps was 16.57 acres with the largest area, 13.66 acres (Area A), located between baseline stations 850+00 and 890+00 or just offshore of Hampton Colony. The other three smaller areas lie offshore between baseline stations 1030+00 and 1070+00. Rob Theiller

Anne Deaton questioned if the toe of fill considered cross-shore transport, noting a paper by **Rob Theiller** (Duke University) for Wrightsville Beach indicated considerable cross-shore transport from the beach fill project. **Ken Willson** said he had recently reviewed the paper and said he believed the paper concluded; that while offshore transport was observed 4 miles offshore, it was a normal process and only a negligible amount of the material was from the beach fill. **Anne** said she believed **Theiller** would disagree with that conclusion. **Jarrett** said the problem he had with the paper was the volume of offshore transport attributed to the beach fill did not seem to add up. He noted that the initial beach fill did come from Banks Channel and a subsequent nourishment operation obtained fill from behind Shell Island. These two borrow areas contained old oyster shells and “salt and pepper” sand. However, most of the fill placed on Wrightsville Beach since 1970 has come from Masonboro Inlet. The material from Masonboro Inlet is material that has been transported off Wrightsville Beach and collected in a sediment trap in the inlet and the south end of Banks Channel. A sediment budget accounting of the material

placed on Wrightsville Beach and the amount collected in Masonboro Inlet and Banks Channel indicated relatively small losses from the area compared to the volume of material offshore implied in the paper.

Ron Sechler asked if there were design features that could limit the impact of the fill on the near shore hard bottoms. He suggested a narrower fill in the affected areas or something creative. **Jarrett** suggested selective use of the material in the borrow area could result in the placement of coarser material in the hard bottom areas which would result in a slightly steeper beach slope. **Howard** said steeper slopes could impact sea turtles. **Jarrett** mentioned the increase in beach slope would be relatively minor, perhaps going from 1:20 to 1:18 for example.

Ron said he would like to avoid impacts on the near shore hard bottoms if at all possible. If impacts can not be avoided, mitigation could be required. **Craig** said construction of artificial reefs using limestone or similar material could cost $1 million per acre. **Anne Deaton** questioned if an artificial reef would emulate the natural habitat. **Craig** indicated that his experience has shown re-colonization within 6 months.

Mickey asked how wide are the proposed fills. **Jarrett** said 160 feet in the Central Section and 225 feet in the North Section. During construction, the fill would close with the existing bottom in depths ranging from 5 to 6 feet with the adjusted or equilibrium toe of the fill expected to be around -20 feet NGVD. Based on the assumptions regarding the adjusted toe of the fill, the closure depth would be the same regardless of the size of the fill. **Craig** pointed out the adjusted toe of the fill is the point where the land grain of sand meets the existing bottom; it is not a wall of sand. In response to a question by **Mickey**, **Jarrett** said the time for offshore adjustment of the fill would depend on post-nourishment wave climate.

Justin asked if subsequent periodic nourishment of the project would push the toe of the fill seaward. **Craig** responded he had not seen that in any of the projects in which he has been involved. **Tom Campbell** stated nourishment operations only restore material that is lost during the nourishment intervals and would be much smaller than the initial nourishment. Also, depending on how the project performs, nourishment may not be needed in all areas or at least to the same degree along the entire project.

At this point, there was a discussion to clarify the dredging of the inlet and nourishment of the beach. The dual purpose for initially repositioning and realigning the channel and subsequent maintenance of the channel is to: (1) provide an opportunity for the north end of the town to return to a shoreline condition comparable to that which existed in the early 1980's and (2) provide a source of beach fill material during initial construction of the project and subsequent periodic nourishment operations. While the shoaling analysis for the new channel indicates there may be just enough material to nourish the North and Central Sections, the inlet may not supply all of the material needed. Accordingly, the project proposal includes the possibility of supplementing periodic nourishment with material from the offshore borrow area. **Tom Campbell** pointed out that use of the inlet could result in an accumulated deficit of nourishment material should the inlet not meet the total nourishment needs. At some point in the future, the accumulated deficit would be supplemented with material from the offshore borrow area. The

plan would be to wait until the volume needed from the offshore borrow area is sufficient to obtain economical bids.

Noelle Lutheran said the Division of Water Quality would not issue a permit that covered the periodic nourishment events; that the DWQ permit would only be for the initial event. **Doug Huggett** mentioned this had been talked about during previous PDT meetings and he had made it very clear that subsequent periodic nourishment events would require a major permit modification. Approval of the permit modification would be based on a review of project performance based on the results of the post-project monitoring program and a comparison of the model predictions to observations. However, the issuance of the initial permit depends on the evaluation of impacts associated with maintenance of the project over 30 years. **Doug** said the major modification would not require a supplemental EIS. In response to a question by **Justin**, **Jarrett** said the EIS would discuss future nourishment events.

Richard Peters asked if the beach fill volumes include material from the inlet. **Jarrett** said yes. However, one of the alternatives does not include the inlet channel. In that case, the initial fill and subsequent nourishment operations would come from offshore or possibly from an upland source. **Jarrett** indicated CPE is very much aware of the permit conditions and the need for a major permit modification for each nourishment operation.

Justin asked if the impacts to the near shore hard bottoms would be permanent. **Craig** said that is something we would need to take a hard look at. He noted that under natural conditions, the hard bottoms are periodically covered and uncovered. Accordingly, we need to determine the proper level of monitoring to determine if the impacts are periodic or permanent. **Ron** asked how the hard bottoms were identified. **Craig** said some were by side scan while others were mapped during dives. Some of the areas where visibility was limited had to be identified by Braille, i.e., by feeling along the bottom. **Anne Deaton** asked if probes were used since some of the hard bottoms may lie just below a thin veneer of sand. **Craig** said some probes were used and he was aware that some hard bottom areas are covered by a thin layer of sediment. **Anne** said **Dr. Riggs** had noted the periodic burial of the hard bottoms and was surprised as to how rapidly they recovered. **Craig** referenced the results of some recent monitoring of a coral reef in Florida. Monitoring had been conducted weekly since May with some of the coral being buried for several months. Yet, once the coral was uncovered, everyone was amazed that the coral survived. These results went against all scientific thought and logic. Generally, once coral is buried, it is assumed to be lost, however, this instance proved that theory wrong.

Anne asked about a control area noting the proposed beach fill projects for the south end of North Topsail Beach and Surf City. **Craig** acknowledged that finding a control area would be a problem. **Ron Sechler** asked if the hard bottoms to the south were similar to the ones off North Topsail Beach. **Ken Willson** looked at the side scan maps and concluded that the area looked comparable. **Anne** noted the existence of a small Natural Heritage Area off Surf City. She has the area located on a map and will provide the location to CPE.

Dick Macartney asked how the hard bottoms off North Topsail Beach compare with the rest of the State. **Anne** said the concentration of hard bottoms off North Topsail Beach is unusually

large compared to the rest of the State. **Dick Macartney** wanted to know what percentage of the area off North Topsail Beach was hard bottom. **Craig** said that had not been determined since no one had asked that question previously. **Anne** noted that shrimp may be in pockets or sloughs that lie adjacent to or run through the hard bottoms. **Craig** said shrimp areas have not been identified near shore.

Noelle Lutheran was under the impression that a nourished beach had different slopes than a natural beach. **Craig** and **Tom Jarrett** disagreed. **Jarrett** said that Carolina Beach had relatively steep slopes prior to being nourished while the slopes off Wrightsville Beach are more gradual. Both of the beaches have retained the same slope characteristics over the more than 40 years of nourishment activity.

Mickey asked **Doug Huggett** if the 500 meter buffer applied to the near shore hard bottoms and possible coverage do to beach fill slope adjustments. **Doug** said the 500 meter buffer is only applicable to submerged land mining and impacts from beach nourishment were not anticipated when the rule was adopted. However, given the importance placed on the hard bottom habitats, **Doug** said he has serious concerns issuing a permit that would impact 16 acres of hard bottom. **Jarrett** asked if the 16 acres could be viewed in relative terms given the large area of hard bottoms lying off North Topsail Beach. **Doug** said that kind of logic did not apply in this case which he likened to the destruction of coastal wetlands. **Doug** considers the impact on 16 acres of hard bottom to be significant.

Craig asked if physical monitoring for the presence or absence of hard bottom pre and post construction using side scan sonar would be an option rather than biological monitoring. He noted the poor visibility in the area negates accurate mapping of the biological activity on the hard bottoms. **Ron Sechler** noted that under natural conditions, the near shore hard bottom areas are covered and uncovered; however, the proposed project would alter natural conditions by adding another variable.

Doug Huggett said he fully appreciated the effect of monitoring. However, from a permitting standpoint, you are deferring decisions on significant impacts until after the permit is issued. If impacts are found, there is little that can be done. **Craig** said there could be some pre-determined mitigation measures in place should negative impacts be determined. **Noelle** noted that in the case of Bogue Inlet, impacts on resources in the area were not predicted; however in this case, we are predicting some impacts. **Craig** cautioned that, as he had indicated earlier in the meeting, the impacts on the near shore hard bottom as presently represented are based on a preliminary 2-dimensional analysis. The impact analysis will be refined.

Anne Deaton said she was not in favor of just doing physical monitoring since so little is known about the biology of the near shore hard bottoms. **Dick Macartney** offered that pre and post-construction monitoring would be a good way to learn about the hard bottoms. **Craig** acknowledged the difficulty of moving the project forward while at the same time collecting data and doing an effects determination without a good understanding of what the impacts are. **Ron** noted that construction of 16 acres of artificial hard bottom could cost $16 million. **Craig** said that was just construction cost. NOAA has done studies of the economic importance of hard

bottoms on marine fisheries. **Mickey** asked if construction of an artificial hard bottom would be near shore. **Craig** that is too premature noting the need to refine the impacts based on previous discussions. **Noelle** asked about information from other areas to which **Craig** said he had been encouraged to use North Carolina data. CPE has had considerable experience in Florida that involved similar hard bottoms, sediment types and wave climate and it just depends on what the agencies would like to see included from these other areas.

Mickey asked if it would be possible to eliminate 1.5 miles of beach fill in the hard bottom areas and if alongshore sediment transport would still have the same impact on the near shore hard bottoms. **Tom Campbell** noted that the impacts presently being shown are simply based on the position of the 20-foot depth contour and that even without a project, projecting the 20-foot contour through the hard bottom area would show the same impact. Under this approach, impacts on the near shore hard bottom are not dependent on the volume of fill or the width beach. This is something that we need evaluate to see if there are things that can be done to refine the predicted impacts and develop measures that could minimize or eliminate the impact. **Jarrett** noted that perhaps what we are observing with the existing beach slopes is some type of "perched beach" effect in which slopes near the existing hard bottoms are being influenced by the presence of the rock outcrops. ***(Tom Jarrett note: The adjusted beach fill slopes are presently based on the slopes of the existing profile, i.e., the adjusted beach fill slope essentially parallels the existing beach slope out to the depth of closure.)*** In other words, the equilibrium shape of the new beach could be considerably different than the slopes on the existing beach. This could be significant if the "perched beach" effect results in flatter slopes in the deeper portion of the beach profile compared to beach slopes unaffected by the near shore hard bottoms. One way to address this issue is to look at the natural beach slopes in areas not impacted by the near shore hard bottoms, for example in the areas south of baseline station 800+00.

(Tom Jarrett note: In subsequent discussions with Tom Campbell, CPE will look at the possibility of using the coarser material from the offshore borrow area. CPE will evaluate equilibrium profile slopes for a range of material sizes available from the borrow area to see it impacts on the near shore hard bottom could theoretically be minimized or eliminate.)

Noelle asked about the buffer in the offshore borrow area. **Mickey** indicated that he would rely on a recommendation from CPE. The offshore buffer will probably be discussed at the next PDT meeting.

EIS Schedule

Mickey noted that the schedule shows the preliminary draft of the EIS being distributed to the PDT on April 19, 2006 which is prior to the completion of the Cumulative Effects Assessment (CEA), the Biological Assessment (BA), and the Essential Fish Habitat (EFH). He asked if that was a good idea since may not get much feedback from the PDT without those documents. **Craig** said he would be working directly with **Ron** and **Fritz Rhode** as well as **David Rabon**, USFWS for input on the EFH and BA respectively. **Doug Huggett** asked if the preliminary draft would include the 3+ mile southern area as he would hope that he would only have to review one

document. Inclusion of the southern 3+ miles depends on the actions of the North Topsail Beach Board of Aldermen. If the Board elects to include the southern 3+ miles, **Craig** said the schedule would be revisited and adjusted as deemed necessary. He noted that the present schedule is not set in stone except we are shooting for a November 16, 2007 construction start date.

Craig said he would like to get any formatting issues for the EIS resolved early on. **Mickey** said he would work with CPE on the format prior to publication of the preliminary draft EIS.

Mickey indicated the next meeting of the PDT would probably be sometime in April and that he would send out notices by the mid or late March.

(Tom Jarrett note: At the request of Alderman Peters, CPE did not include any discussion of the inclusion of the southern 3+ miles during its meeting with Surf City.)

List of PDT Participants
8 February 2006

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Minutes
12 April 2006 PDT
North Topsail Beach Town Hall

Mickey Sugg provided the agenda which included a presentation by **Tom Campbell**, President of Coastal Planning and Engineering (CPE) on the design of the beach fill, discussion of the borrow area buffer and hard bottom monitoring plan by **Erin Hague** (CPE), discussion of the analysis of alternatives by **Tom Jarrett** (CPE), and developments related to the possible addition of the southern 3.85 miles of the Town's shoreline to the proposal.

Tom Campbell referred to the potential impacts of the beach fill project on near shore hard bottom resources identified at the last PDT meeting. In this regard, hard bottom areas lie very close to shore in the Hampton Colony area (baseline stations 840+00 to 900+00) and in the North Section between baseline stations 1000+00 and 1090+00. The impacts indicated at the previous PDT meeting were based on the borrow area containing material with a mean grain size very close to the native material. Placement of same mean grain size material could result in the material moving offshore during post-nourishment adjustments which could potentially impact over 16 acres of the near shore hard bottom resources. If this occurred, the Town could be required to mitigate the damages, which would divert its limited funds from placing sand on the beach to providing the required mitigation. The impacts could also result in a denial of the permit should mitigation be deemed inappropriate.

Campbell discussed the equilibrium beach profile concept developed by Dr. Robert Dean, University of Florida. Campbell indicated that Dr. Dean was a world renowned coastal engineering expert who has received numerous honors and recognitions over the years by his peers.

Campbell said Dr. Dean's concept relies on the depth of closure (h^*), the depth below which changes in the beach profile over long periods of time are not significant from a coastal engineering perspective. In the North Topsail Beach area, the depth of closure is generally between -18 and -20 feet NGVD. Dean's concept also includes the offshore shape of the beach profile. Based on his analysis of profiles around the world, Dean developed the following general shape of the beach profile:

$$h = Ay^{2/3}$$

where: h = Depth below the shoreline
A = Dean's profile shape factor
y = Distance seaward of the shoreline

Dean's A factor depends on the grain size of the beach material with coarser material producing steeper slopes and fine material flatter slopes.

Campbell presented three examples of the impacts of grain size on the beach profile. These included fill material with a mean grain size equal to the native, fill with a mean less than the

native, and fill with a mean grain size greater than the native. All examples included the same volume of material. In the first example with equal grain sizes for the borrow and native, the entire beach profile would be extended the same distance seaward from the mean high water line seaward to the depth of closure. For example, if the design width of the beach is 65 feet, the beach fill profile would parallel the existing out to the depth of closure. If the near shore rock was located less than 65 feet from the depth of closure, it could potentially be covered as the material adjusts offshore. If the fill material is finer than the native, the width of the beach above mean high water would be significantly less as most of the material would move seaward with much flatter slopes than the native. This could also result in significant impacts on any near shore rock resources. Finally, if the borrow material is coarser than the native, the adjusted beach width would be much larger since the point of intercept of the beach fill with the native beach would be well landward of the depth of closure.

Campbell provided an example of how the concept actually worked for a beach fill project located on Longboat Key, FL. In 1993, material with a mean grain size less than the native material was used to construct the initial beach fill. After a few years, most of the material had migrated seaward resulting in very little added width of the upper portion of the beach. While the added width was a concern, the fine material was relatively white which was favored by the local sponsor. In 1997, coarser material was used to nourish the same beach and post-fill surveys found that the material intercepted the profile well landward of the depth of closure. The shallow depth of closure resulted in more material being retained on the upper portions of the beach profile, thus adding significant width to the beach.

Based on this concept, CPE undertook an evaluation of the potential beach fill material located in the offshore borrow area and in New River Inlet to see if there was a sufficient volume of coarse grain material to create intercepting profiles in the two near shore rock areas. In the case of New River Inlet, the mean grain size of the material is around 0.45 mm, which is much coarser than the native material which is 0.22 mm. Based on the steeper profiles and higher retention rate for the material on the upper portions of the beach profile, the 630,000 cy of inlet material could be used to construct the beach fill from the inlet south to around baseline station 1000+00. While the volume rate of placement would be significantly less than previously presented, the resulting adjusted profile would still provide the same amount of additional beach width as originally proposed, i.e., around 90 to 100 feet.

The offshore borrow area includes a paleochannel that has approximately 400,000 cy of material with a mean grain size of 0.35 mm while the rest of the borrow area has a mean grain size of 0.21 mm. By dedicating the coarser material to the Hampton Colony area that has hard bottom areas close to shore, impacts of the beach fill on the hard bottom could be avoided. In this regard, the mean grain size needed to develop an intercepting profile that would close landward of the rock areas was determined to be 0.27 mm. Thus the 0.35 mm material would close well landward of the rock area. The 0.21 mm material available from the remaining portions of the borrow area would be used to construct the beach fill in areas where the hard bottom resources are located well offshore.

In summary, **Campbell** concluded that there is enough coarse material in the offshore borrow area and in New River Inlet to avoid impacts on the near shore hard bottom resources. **Erin Hague** added that the design includes placing the coarse material 1000-feet north and 500-feet south of the near shore rock areas lying off the Hampton Colony area. This would provide a buffer for the longshore movement of the material.

Tom Jarrett mentioned that the Bogue Inlet/Emerald Isle project involved the placement of material from Bogue Inlet along 4 miles of shoreline that was coarser than the native sand. The design called for the disposal of about 30 cy/lf of shoreline which would normally produce a 30-foot wide beach. However, since the material from the inlet was coarser than the native, the resulting beach width was around 60 feet. This is a good example of the intercepting profile concept discussed by **Tom Campbell**.

Steve Everhart enquired about the color of the borrow material and if the coarser material and resulting steeper slopes would have an impact on nesting sea turtles. **Steve** explained that the sex ratio of turtles depends on the color of the sand while steeper slopes could make it difficult for turtles to crawl up the beach. With regard to beach slopes, **Tom Campbell** pointed out that the slopes we are talking about are only relatively steeper than the existing and would not prevent turtles from crawling up the beach.

The color of the sand that would be derived from New River Inlet would be the same as the native beach since the inlet material was derived from the adjacent beaches. Again, the Bogue Inlet project was pointed out as an example of how well the inlet material color matched the native sand. The material that would be derived from the offshore borrow area will initially be darker than the native, but over time, the material will "bleach out" due to exposure to the sun, wind, and rain and will eventually come very close to matching the color of the native material. *(Note: wet and dry samples of the offshore material were put on display for inspection by the PDT members).*

Erin Hague said that nesting on Longboat Key following the placement of the coarser material, did not have an impact on turtle nesting, in fact, turtle nesting has been found to increase on nourished beaches regardless of the grain size of the borrow material. **Erin** said she would have to do some research on the effects of sand color on the sex ratio of turtles.

Doug Piatkowski asked if the use of the coarser material would violate the proposed new State sediment criteria for beach nourishment. **Jarrett** pointed out that the new criteria only affects the amount of silt and gravel that can be placed on the beach as well as the amount of shell. In the case of silt ($d \leq 0.0625$ mm), the State criteria would allow 5% above the native. The same 5% above native would also be applied to gravel ($d \geq 4.76$ mm). Shell content in the borrow material would be limited to 15% above native. There is nothing in the proposed State criteria that addresses the central tendency of the borrow material. **Jarrett** indicated that this would be driven by engineering criteria as it relates to the performance of the fill. Accordingly, the use of the coarse grain material as described by **Tom Campbell** would meet all of the proposed State sediment criteria.

Doug Piatkowski questioned the ability to control the longshore movement of the borrow material on such a small scale noting the movement of the natural material. **Tom Campbell** said that's why a buffer area is included north and south of the rock areas. Also, the depth of intercept of the coarser material is well landward of the edge of the near shore rock resources. Finally, longshore and offshore movement of the coarse material would be less than the native. In any event, the impacts of the fill on the near shore rock areas should be monitored given the difficulty of making exact predictions on the movement of the material.

Tom Campbell stated that given the resources available for the project, the design that he described is the best we can do. Based on his assessment, there should not be any impacts on the near shore rock resources.

Howard Hall asked how the near shore rock resources had survived given the erosion that has occurred over the years. **Tom Campbell** said that most of the present rock areas were probably covered until recently and as the beach eroded, the rock areas have become exposed. **Jarrett** pointed out a similar situation with the rock outcrops located near Fort Fisher.

Sue Cameron asked if there would be differenced in the beach benthic community with the coarse material. **Erin** said she would look into that and provide information later. However, she indicated that the coarse material would contain more voids which could allow greater numbers of benthic organism.

A general discussion followed regarding the impacts of the coarser material on beach organisms; however, no definitive information was available. **Mickey** mentioned that monitoring of Bogue Banks has found no difference in the number of organism in areas containing high concentrations of shell versus areas low in shell content.

Sue Cameron asked about monitoring. **Erin** indicated that monitoring of the Longboat Key project included visual observations by divers. **Tom Campbell** added that the monitoring also included sidescan surveys. **Mickey** pointed out that monitoring of the North Section would be difficult due to low visibility. **Erin** agreed but indicated that dive monitoring could be performed in the Central Section. Later, **Erin** mentioned that monitoring of the North Section could be accomplished using multibeam surveys and back scatter analysis to determine sediment accumulations within 1 cm accuracy. This method can also differentiate between mud and sand. In this regard, most of the mud comes from New River Inlet while sand would be derived from the beach.

Doug Piatkowski asked if the coarse material is similar to Dare County. **Jarrett** indicated that material lying offshore of Dare County was similar to the material lying offshore of North Topsail Beach with grain sizes in the offshore ranging from 0.18 mm to 0.20 mm in both cases. *(Added following the PDT: In Dare County, the foreshore material is much coarser averaging around 0.80 mm while the foreshore material on North Topsail Beach averages 0.28 mm.)*

In response to a question by **Doug Piatkowski**, **Tom Campbell** said that based on his assessment of the use of the coarse material; there would not be any impacts on the near shore

hard bottoms. The approach would provide significant buffers both alongshore as well as offshore where the intercept point of the beach fill would be well landward of the edge of the rock.

Mickey asked if the steeper slopes associated with the coarse material would have an impact on waves. **Tom Campbell** responded that it would not. Again, the increase in slope is relatively small compared to the slope of the existing beach.

Doug Piatkowski asked about the vertical relief of the near shore hard bottom areas. **Erin** said she could not provide averages since she could not see the rock outcrops in the North Section. However, based on the profile surveys, the higher relief is located well offshore. **Jarrett** pointed out that the landward edge of the near shore hard bottoms depicted on the handouts provided at the last PDT actually defines the edge of a relatively flat terrace landward of the higher relief. **Erin** mentioned that this could be tailings that had eroded from the higher offshore rock outcrops. **Doug Piatkowski** also asked if the outcrops were ephemeral. **Erin** said that several areas showed signs of scour but the outcrops were not ephemeral.

BREAK

Following the break, **Erin Hague** discussed the buffer for the offshore borrow area and the monitoring plan being proposed for the borrow area. *(Note: Copies of the hard bottom monitoring plan were provided to the PDT members present.)*

Erin mentioned that the 400-foot buffer around the hard bottom areas near the proposed borrow area was based on recommendations from NOAA Fisheries Habitat Conservation Division. The NOAA recommendation was also endorsed by the Minerals Management Service. During the Delray Beach nourishment project, the Florida Department of Environmental Protection required the installation of sediment traps within 400 feet and 500 feet of the active borrow site as well as at control sites removed from the borrow site. Results of the monitoring found no difference in sediment accumulation in the traps near the borrow site and at the control sites. In addition to the Delray Beach project, the 400-foot buffer has been applied to Florida projects in Collier County, Broward County, Boca Raton, and Palm Beach County with no impacts observed on the hard bottom resources. In all cases, the 400-foot buffer was independent of dredge type.

Erin said CPE has considered the impacts of larger buffers on the volume of material available from the offshore borrow area. If a 1000-foot buffer is applied, it would eliminate all of the coarse material found in the paleochannel that is needed to avoid impacts on the near shore hard bottom resources lying off the Hampton Colony. **Doug Piatkowski** asked about the possibility of finding coarse sand farther seaward. **Jarrett** indicated that the Corps vibracores from this area found only thin layers of sand lying on top of hard bottoms. **Erin** confirmed this based on dives in the area where thin layers of sand (one to two feet thick) were found on top of rock. While the original borrow area was much larger, information from the seismic and side scan surveys greatly reduced the size of the borrow area based on the identification of the hard bottom resources.

Erin said she also considered the 500 meter buffer but found that it would eliminate all but 1/3 of the borrow area and would also eliminate the coarse material. This would effectively kill the project. **Erin** reiterated that monitoring of the Delray and Boca Raton projects, which employed pipeline dredges, all supported the 400-foot buffer. Without the 400-foot buffer, the coarse material would be eliminated and impacts on the near shore rock resources would be likely.

Doug Piatkowski asked if hopper dredges had been used in Florida and if so, was overflow allowed? **Tom Campbell** said that all hopper dredge operations allow overflow.

Fritz Rhode mentioned that he is not only concerned with sedimentation but with physical impacts of the dredge equipment on the hard bottom areas. He referenced some problems in this regard that occurred in South Carolina. **Erin** and **Tom Campbell** indicated that the location of the dredge and its cutterhead can be closely monitored using the software package known as DREDGEPAK®. The use of this software package also allows the operator to control his position within 1 meter accuracy.

Tom Campbell said that not only is the location of the dredge and cutterhead important the location of the dredge anchor points must also be controlled to avoid impacts of cables and anchors on the hard bottom areas. Accordingly, the contract specifications will explicitly dictate each phase of the operation including the mobilization and demobilization of the equipment to assure that the contractor or any of his subs do not drag cables, anchors, other objects over hard bottom areas.

Doug Piatkowski mentioned that all Corps project involving hopper dredges now require the use of a Silent Inspector. Based on following discussions, the Silent Inspector appeared to be comparable to DREDGEPAK®.

Doug Huggett said that he is not totally comfortable with the 400-foot buffer particularly in light of the State's 500-meter requirement. While the 400-foot buffer appears to work well in Florida, **Doug Huggett** was concerned with possible differences in the environmental conditions between NC and FL including sediment types, wave conditions, and species types. With regard to the 500-meter buffer, **Doug** was not aware of the science, if any, used to establish this limit indicating it may have been based on educated guesses at the time. In any event, **Doug Huggett** said he could not accept the 400-foot buffer without additional supporting information.

Erin said she had talked with **Ron Sechler**, National Marine Fisheries Service, regarding the 400-foot buffer but he has not formulated an opinion. However, **Erin** said that **Ron** talks with Eric Hoch, NOAA Fisheries, who has been very explicit about what he supports. **Mickey** asked if Hoch's perspective was from impacts on turtles to which **Erin** responded that it was. However, **Erin** pointed out that turtles rely on the same organisms attached to the rocks that are used by other species.

Erin said that during her dives off North Topsail Beach, she observed considerable sedimentation on some of the hard bottom areas with depths up to an arms length. This sedimentation was subsequently removed by wave action. In terms of sedimentation, NC

appears to exceed FL. Cover of hard bottom areas in FL is usually by the movement of sand bars which may cover the rock areas for months. Once it is removed, the organisms seem to recover relatively quickly. In general, the environment in NC is much harsher than in FL where the water is relatively clear.

Mickey said it would be nice to see what science was used to establish the NC 500-meter buffer. **Doug Huggett** said he did not know but would try and determine how the basis of the 500-meter buffer. He said he is not saying at this point if the 400-foot buffer is unacceptable, only that he needs more information to become comfortable with the smaller buffer.

Michelle Duval enquired about the use of upland borrow areas. **Jarrett** said that is one of the options to be evaluated but at this time, material quality has not been determined. While the mean grain size of the material may be comparable to the native, if it does not have a wide distribution of grain sizes, it may not be compatible with the native material. **Doug Huggett** indicated that the use of upland borrow sites could raise public trust issues. **Mickey Sugg**, referring to the recent dune restoration project carried out by North Topsail Beach, said the borrow area was located near Wallace, NC. Funding for a portion of the project was provided by FEMA which gave the town $1.5 million to haul the material to the beach. Approximately 45,000 cy of material was truck hauled to North Topsail with the $1.5 million FEMA grant. This is equal to over $33/cy. **Mickey** said the town would have to demonstrate why upland borrow is not acceptable.

With regard to the 400-foot buffer, **Mickey** said he cannot agree to it at this point. **Doug Huggett** said that's why he needed more information before coming to a decision point.

Tom Campbell said CPE would develop more supporting information for cases in FL and make a comparison of environmental conditions in FL versus NC. CPE will also check into projects in New Jersey as well as other states. **Erin** reiterated that she would like to information regarding the basis of the State's 500-meter buffer to which **Doug Huggett** indicated he would seek out that information. **Mickey** said he would like to see the information supporting the 400-foot buffer as soon as possible so it could be distributed to the PDT. **Erin** said it would take some time to develop both the environmental and engineering data.

Erin Hague distributed copies of the proposed hard bottom monitoring plan to the PDT indicating she would like to initiate the plan as soon as possible. The plan includes the establishment of 4 permanent transects in the near shore rock area located seaward of the Hampton Colony and 7 permanent transects in the borrow area. One of the borrow area transects, located 4,400 feet southwest of the borrow area, will serve as the control. BEAMR methodology (described in previous PDT meetings and explained in detail in the monitoring plan handout) as well as video documentation will be used to characterize the habitat along each transect. Sediment traps will be installed at each end of the 7 borrow area transects as well as at the end of two transects located near the seaward limits of the near shore hard bottom area lying off Hampton Colony. Pending approval of the PDT and authorization by the Town, monitoring of the hard bottom areas could be initiated in May-June 2006.

Monitoring events will occur one month prior to the initiation of construction and every two weeks during the first two months of the construction period. If sedimentation rates are less than 10% above background, subsequent monitoring events during the last stages of the construction period would be reduced to once per month.

Three pipeline corridors from the borrow area to the beach have been established through non-hard bottom areas. Diver inspection of the pipe will be made following its installation to assure no hard bottom areas are impacted. During construction, the pipeline will be inspected from the surface every two weeks to check for possible leaks. Divers will be used when necessary to determine if leaks have occurred. The contractor will be notified immediately once a leak is determined and appropriate corrective action taken.

Monitoring reports are to be submitted 45 days following the commencement of the dredging operation and every 60 days during the construction period. **Mickey** asked if more frequent reporting could be made. **Erin** indicated that the raw data from each monitoring event could be made available, but a detailed reporting for each bi-weekly event would not be possible. The main problem with more frequent reporting is associated with the drying and weighing the sediment samples. In addition to the monitoring events, the contractor will be required to make turbidity measurements and provide those reports every week. **Tom Campbell** pointed out that an inspector will be on the job 24/7 and can detect any problems that might arise.

In addition to the sediment traps, **Erin** indicated that the depth of sediment along each transect would be measured using a ruler. This should provide sediment thicknesses to within 1 mm accuracy.

In summary, **Erin** stated that the monitoring plan includes bio assessment, sediment traps, video monitoring, and observations of the health conditions of corals located near each transect. **Doug Huggett** asked if the rock areas located off the North Section would be monitored. **Erin** said due to low visibility in that area, visual observations would not be possible; however, multi-beam surveys would be conducted to measure sedimentation rates. **Doug** also noted that may need additional transects near the middle of the borrow area. **Erin** stated that the standard is to monitor 1/1000 of the hard bottom areas and that the plan as described meets this standard.

Mickey said he would distribute the plan to all members of the PDT (including those not present) and request comments.

Richard Peters asked who would be the project manager during construction. **Tom Campbell** said that the project manager would be hired by the Town; however, non-compliance issues would ultimately be the Town's responsibility. **Mickey** pointed out that in some instances, the contractor could be held directly responsible for non-compliance if he had been given explicit instruction on things not to do but still did them. **Jarrett** indicated that project construction management could be provided by CPE if the town so desires. CPE would provide inspections 24/7 to make sure that every aspect of the specifications, including environmental compliance, is adhered to.

LUNCH

Jarrett provided a handout that summarized the economic impact of the 7 alternatives developed by the PDT. In the case of Alternative 7, the hard structure alternative, economic impacts were not evaluated since the use of such a structure is against the laws of North Carolina.

Alternative 1 is the No Action Alternative and essentially represents actions being taken today in response to shoreline erosion and storm impact issues. This includes the installation of temporary sand bags and relocation and/or demolition of threatened buildings. Alternative 2 – Buy-Out is similar to the No Action except temporary sand bags would not be used. Once a structure becomes threatened, it would be relocated or demolished.

Alternative 3 is the applicant's preferred alternative and includes beach fill and implementation of the New River Inlet Management Plan. The recommended channel would be -17 feet NGVD with a bottom width of 500 feet. Construction of the channel would require the removal of over 630,000 cy with approximately 600,000 cy of shoal material removed every 4 years to reestablish the channel position and alignment. The shoal material would be used to provide periodic nourishment of the North and Central Sections.

Based on the past behavior of the inlet and the adjacent shorelines, 15 years may be required before the north end shoreline is restored to a condition comparable to that of the mid-1980's. During the 15-year recovery period, development in Reaches 114 to 116 (Reefs Condominiums north) would initially be subject to high levels of storm damage but this exposure should gradually reduce by the end of the recovery period.

Alternative 4 includes the beach fill but not the inlet management plan. The beach fill alone would not be able to sustain a high level of protection in Reaches 114 to 116. Repeated storm damage to structures in these reaches could eventually lead to their removal or demolition.

Sue Cameron questioned if moving the inlet channel would have the desired impact, noting that some doubt has been expressed in previous PDT meetings. **Jarrett** said that there is some uncertainty regarding the extent of the shoreline recovery and the timing of the recovery. However, moving the channel is the only hope for preserving the development at the north end of the town. The analysis presented in the handout probably represents the "best case", although quicker recovery of the shoreline is also possible. Including the inlet management plan would also provide a long-term source of high quality periodic nourishment material. As noted in the previous discussions, the amount of material in the offshore borrow area with the needed size characteristics is extremely limited. Accordingly, new borrow areas would have to be identified which could result in the disturbance of additional offshore areas.

Alternative 5 involves a single channel relocation event. Based on past behavior, shoreline recovery in Reaches 114 to 116 could occur over about a 5 year period after which the shoreline would probably begin to erode. Any recovery during the 5-year period would probably be eliminated in 6 years. Thus, protection for the north reaches would be ephemeral.

Alternative 6 only includes the inlet management plan. Material removed from the inlet to initially construct the channel would be distributed evenly in both the North and Central Sections. Material removed to maintain the new channel position and alignment every 4 years would also be evenly distributed in the North and Central Sections. This plan has the potential to address the long-term shoreline erosion issues; however, since this would essentially keep all of the structures in place, storm damages would be rather large. After repeated storm damages, some of the structures would probably be relocated or demolished.

Jarrett indicated that the handout was only intended to provide a quick summary of the economic impact of the various alternatives and that more detail would be provided with the distribution of the engineering report. In this regard, the engineering report is nearing completion. The recent beach fill design change, discussed by **Tom Campbell** will have to be included in the report as well as cost estimates for the various alternatives and sub-alternatives involving alternative upland borrow areas. **Jarrett** said he would distribute the final draft of the report to the PDT on CD's.

Dick Macartney asked what it would take to implement Alternative 7. **Doug Huggett** responded it would require a change in the State Law.

Richard Peters initiated a discussion on the possible inclusion of the South Section in the current EIS/permitting process. **Jarrett** indicated that we need a decision by the town right now so that if it wants to include the South Section, we probably still have time to work it into the documents. Additional borrow material will have to be found, since the present plan would deplete all but the finer material located in the existing borrow area, and the same environmental documentation will have to be developed for the additional borrow area. The search for additional sand resources to support the South Section would only involve the taking of additional vibracores since the area has already been covered with seismic and side scan sonar surveys. **Mickey** pointed out that if the South Section is not included in the draft EIS and is added later, we would have to start the whole process again. **Erin** said that is why we are opting to include the South Section in the final EIS.

Mickey said that the design for the South Section would differ from the Central and North Sections. **Jarrett** confirmed stating that the volume of fill would only be that necessary to reestablish and maintain the 2002 shoreline condition until such time that a Federal project is implemented. This could require between 500,000 and 1,000,000 cy. **Dick Macartney** thought that there was enough material in the existing borrow area to support the south area, which should speed up the process of including the South Section. **Jarrett** again pointed out that the plan as presented by **Tom Campbell** would only leave very fine sediment in the borrow area which would not be suitable to achieve the project design goals for the South Section.

Jarrett pointed out that we do not have any data on near shore hard bottoms for the South Section. The only information is from beach profile surveys that indicate possible high relief hard bottom areas well offshore, but this does not mean that low relief hard bottom areas are not present. Side scan sonar surveys will be needed to determine if hard bottoms exist in this area.

Erin said that if the Town approved inclusion of the South Section during its next board meeting, we should be able to move forward with the preparation of all of the documents while we are collecting the additional supporting information for the South Section.

A question was asked as to how long the permitting process takes. **Doug Huggett** pointed out that we are already in the permit process. We have been meeting for several months discussing and trying to resolve issues that will be included in the EIS. Once the documents are completed and review and a permit application submitted, the permit processing time normally takes 90 to 100 days. Based on the present schedule, the preliminary draft of the EIS (PDEIS) was to be submitted to the PDT in April. Obviously, this date will slip. Bottom line, the present schedule without the South Section is tight and inclusion of the South Section will probably add some additional time for completion of the PDEIS.

Dick Macartney asked about the possibility of treating the South Section as a separate project. **Doug Huggett** said the process would probably start sometime next year, however, that would be during the final phases of the existing process. Accordingly, federal and state agencies as well as CPE would probably have limited resources to use on a new project. **Dick Macartney** concluded that the best approach would be to incorporate the South Section into the existing project. **Erin** said that would be her recommendation.

Due to a tape error, some of the subsequent discussion was missed. The topic of discussion when the tape resumed was regarding possible impacts and need for monitoring in the marsh areas adjacent to Cedar Bush Cut.

Doug Huggett said he was of the opinion that impacts to the marsh areas lying adjacent to Cedar Bush Cut would not be significant. Monitoring of these areas could probably be done with aerial photographs to assess changes in the system. If repeated aerial photos did not show any significant change, the aerial monitoring could be terminated. **Erin** pointed out that we would need to identify changes that have occurred in the past in order to establish a frame of reference for possible future changes.

Doug Piatkowski asked if a hopper dredge would be used to construct the inlet channel. **Jarrett** said that depths are too shallow and that the work would be performed by a pipeline dredge. While future maintenance of the channel with a hopper might be possible should depths allow hopper dredge access, **Jarrett** felt that the amount of shoaling would result in depths too shallow for a hopper dredge.

A general discussion regarding the possible use of a hopper dredge to move material from the offshore borrow area to the beach ensued. Problems with a hopper dredge operation included a higher risk for potential damage to hard bottom resources, sediment plumes during the filling process, and a shorter dredging window due to sea turtle activity. Also, if turtle takes in the southeast reach the limit establish by NIMS, the whole operation could be shut down even if no turtle takes were associated with the project.

Dick Macartney asked what would be the economic losses if the project was delayed one year. **Jarrett** said that is difficult to say, however, the Reefs Condos are already threatened and 8 duplex structures have already been condemned at the north end. *(Note: An additional 8 structures have become threatened at the north end subsequent to the PDT meeting).* The greatest economic impact over the next couple of years would be the cost for installing and maintaining temporary sand bag structures. While the sand bags may prevent the loss of structures from long-term erosion, they are generally ineffective in preventing storm damage. Risk of damage is not limited to the north end of town as there are areas along the entire length of the town's ocean shoreline that are extremely vulnerable.

The next PDT meeting will be scheduled for June.

List of PDT Participants
12 April 2006

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Minutes
18 July 2006 PDT
North Topsail Beach Town Hall

Following introductions by PDT members and guest (list of participants attached), **Mickey Sugg** said the main topic of discussion would be on the report by **Erin Hague** entitled "Physical and Biological Community Analysis of the Nearshore Environment of Onslow Bay near new river inlet", that was prepared to support of the 400-foot buffer between the offshore hardbottom areas and the proposed borrow area. A copy of the report is attached to these minutes. Other items to be discussed are the status of the bird monitoring plan, the Biological Assessment, and the addition of the southern 3.85 miles of the Town's shoreline to the project.

Bird Monitoring.

Erin said she had been talking with **Sue Cameron** (NCWRC) and the Marine Corps. The Marine Corps presently has a bird monitoring plan in place for Onslow Beach. **Erin** asked if they would be able to increase the frequency and the area covered by the plan. The Marine Corps said it does not have the resources to support that request. **Steve Everhart** (NCWRC) said the Marine Corps would also probably need a Base Order to comply with the request. **Erin** said she would continue to work with **Sue** to see if they can develop a plan that could be supported by the Marine Corps.

Howard Hall (FWS) suggested modeling the bird monitoring plan after the Bogue Inlet project. **Erin** pointed out that the main difference between New River Inlet/North Topsail Beach and Bogue Inlet was the existence of designated critical habitat for piping plover in Bogue Inlet. Since no such designation exists for New River Inlet, the monitoring effort will not be as extensive. **Mickey** said out that the methodology would be the same as for Bogue Inlet, just the number of transects and frequency would be less. Also, there would not be any roping off of areas.

Doug Huggett said that DCM would want to be involved in any discussion regarding roping off of areas. DCM must balance protection of the birds with the public's rights to use the beach. **Erin** said she did not believe there would be any opportunities to rope off areas in the vicinity of New River Inlet, at least on the North Topsail Beach side. Roping off areas on Onslow Beach may be possible; however, access to this area is already controlled by the Marine Corps. **Erin** mentioned that there were no reports of piping plover nesting over the last 20 years.

Howard Hall stated his opinion that there was no difference in habitat and critical habitat, however, if an area is designated as critical habitat; that would have to be addressed. **Erin** said that the extent of the bird monitoring at Bogue Inlet was prompted by the critical habitat designation. She said bird monitoring will be implemented for New River but not to the same level as that required for Bogue Inlet.

Erin said she would continue to work with **Sue Cameron**, **Howard Hall**, and **David Rabon** (FWS) to develop a plan. There was some discussion regarding the installation of an information

kiosk. **Mickey** said the kiosk should not include words such as "restrict" just provide information on bird use of the area.

Biological Assessment (BA).

Erin said she is awaiting information on sea turtles in North Carolina in order to complete the draft BA. **Steve Everhart** indicated that **Mathew Godfrey** had some emergencies that prevented him from passing the information along, but that he should be able to get the information to **Erin** shortly.

Mickey said he thought the project would allow hopper dredges. **Erin** said no that the Essential Fish Habitat analysis and the BA were all being prepared for restrictive use of pipeline dredges. It is one of the mitigating factors included in the project formulation. **Mickey** indicated that if hopper dredges are not being included in the plan, if at the time of construction, hopper dredges were the only dredge plants available, re-consultation would have to occur. CPE indicated that in that event, the contract would be re-advertised.

South Section.

Tom Jarrett reported that the Town Board of Aldermen had voted to include the southern 3.85 miles of its ocean shoreline in the project. The project for the South Section would be designated as an emergency or interim protection plan designed to protect the area until implementation of a federal storm damage reduction project. Based on Corps of Engineers guidance, the South Section project would be designed to restore and maintain the 2002 shoreline condition. This is the condition on which the Corps economic evaluation was based.

CPE will be conducting geotechnical investigations offshore of North Topsail Beach in support of the South Section during the last week of July and the first week of August. The investigations include vibracores outside the existing offshore borrow area and side scan sonar surveys of the near shore area. Beach profile surveys of the South Section will be conducted later in the year, probably in September or October.

Preliminary analysis of the 2002 beach profile surveys by the Corps of Engineers did not show any obvious area of high relief hard bottoms close to shore along the South Section. Some high relief areas did appear to exist in water depths of 40 feet and some possible hard bottom areas located in 30 feet of water in the northern reaches of the South Section (between baseline stations 700+00 and 770+00). Once the side scan data is analyzed, **Erin** and her team will make dives on suspected hardbottom areas to determine if they need to be added to the monitoring plan. Analysis of the side scan survey data will take about 30 days.

Mickey asked if construction of the project would take two seasons. **Jarrett** said two seasons had always been in the plan. Given the present schedule for the EIS and permits and the time required for mobilization of a dredge, actual work would probably not begin until January 2008. The first order of work would be New River Inlet and if time permits, the dredge would move to the offshore borrow area and construct the project in the hardbottom area in the vicinity

of Hampton Colony. The second phase of construction would take place between November 16, 2008 and March 31, 2009.

Mickey said he would have to determine if another Notice of Intent needs to be issued to cover the addition of the South Section.

400-foot Buffer.

Erin explained that the report defines the existing conditions in the area and gives an idea of the tolerance level of the native species. She was looking for a possible source of suspended sediment encountered by CPE divers during underwater investigations conducted in June, August, and October 2005.

Previous investigators, including Crowson, NCSU and Rudi Rudolph (Carteret County Shore Protection Office) had observed exposed peat and mud in the near shore off North Topsail Beach. **Erin** said she too had encountered exposed peat and mud during the underwater investigations. Also, high velocity flows through Cedar Bush Cut, which pass through marsh and peat areas, could be scoured and discharged into the ocean.

Ron Sechler (NMFS) questioned one of the findings by Crowson in which he observed mud concentrations between interstitial opening of coarse grained sediments which appeared to accumulate during low energy periods but were not re-suspended during high energy wave periods. **Jarrett** said that Crowson did not define high energy periods and it was possible that during extremely high wave energy periods, such as during hurricanes, the material probably would be re-suspended.

Fritz Rhode was asked about shrimping in the area since shrimp are known to favor muddy bottoms. **Fritz** said the area is heavily worked. **Erin** added that she had observed shrimp boats working in the same offshore areas during her visits to the site.

Erin discussed water quality in New River. She pointed out that NOAA considers New River one of the most eutrophic rivers in the nation. While nutrient loading has decreased in recent years with improved waste water treatment being performed by the City of Jacksonville and Camp Lejeune, the increase in population around the river combined with major spills from animal farms has continued to maintain rather high nutrient levels. Hypoxia conditions still occur in New River. Frequent algal blooms in New River also contribute to a thick layer of bottom sediments.

Erin related that during the August 2005 underwater investigation near site 4 located on the north side of the proposed borrow area, she found about 1-foot of relief and fairly good biological coverage. When the same location was revisited during the October 2005 underwater investigation, she did not find any relief as the area was covered with a thick layer (about 2 feet) of mud. The October dive occurred about one month after Hurricane Ophelia (12-14 September 2005) and **Erin** believes that discharges from New River, including rain runoff and waters

pushed into the river by Ophelia, carried large quantities of suspended sediment which eventually settle over the area close to New River Inlet.

Fritz Rhode questioned New River as the source of the suspended sediment stating be did not believe that scouring of bottom sediments in New River was a significant factor. He believed the sediment must have another source. **Erin** said she could not find another rational source for the sediments, acknowledging that the presence of the sediment could just be a characteristic of the total system in and around New River Inlet.

Erin indicated that the report discusses the tolerance level of the various species found in the area. **Erin** noted that the most common three species off North Topsail Beach are found all the way from Cape Cod to Texas, so they have a high tolerance for fluctuating light and temperature conditions. The recent periods of high suspended sediment and sedimentation, whether related to Hurricane Ophelia, re-suspension of sediments in New River, or the reworking of sediments on the ocean floor, indicates that the existing natural system experiences a wide range of environmental conditions, yet the species still survive.

Howard Hall questioned the meaning of the following sentence in the report, "This geographic setting supports a unique system located in a transitional environment where tropical, subtropical and temperate flora and fauna are at their upper and lower latitudinal limits." (page 8 under topic heading "CORRELATION OF SPECIES AND PROJECT AREA ENVIRONMENTAL CONDITIONS". He said he interprets this to indicate the system may be very sensitive. **Erin** asked sensitive to what? Howard said sensitive to impacts. **Howard** said that if the species are at the edge of their range, then stress is high. If something occurs that increases the conditions beyond the tolerance level, the system could crash. **Erin** pointed out that what she was trying to express is that the species found off North Topsail Beach are highly tolerant to conditions and that the upper and lower limits referred to in the sentence was directed at the geographical boundary not the limits of the species. **Erin** had previously indicated that the species found off North Topsail Beach occur from Cape Cod to Texas.

In response to a question, **Erin** stated that the area does not have any unique species. **Ron Sechler** pointed out that the uniqueness is relative to North Carolina in that the presence of the hardbottoms makes the abundance of the species unique. **Doug Huggett** mentioned that the rarity of the hardbottom areas in North Carolina has resulted in the need to protect.

Howard Hall asked the status of coral bleaching. **Erin** pointed out that in the case of North Topsail Beach; we are not dealing with coral reefs. She indicated the cause of the die-offs of coral reefs has not been determined. Factors such as water temperature and possibly the introduction of diseases from foreign sources may be contributing factors.

With regard to the possible impacts of the project, **Erin** explained that a cutterhead pipeline dredge sucks up sand from the bottom and does not produce a lot of suspended sediment. **Fritz Rhode** asked how the dredge would be anchored. **Erin** responded by anchors and wires with the anchors located about 200 feet from the dredge. **Erin** mentioned that the composite silt content

in the offshore borrow area is 6.2% while the composite silt content in New River Inlet is 0.93%. The native material on North Topsail Beach contains 2.9% silt.

Doug Piatkowski suggested looking at the results of Corps of Engineers research on the environmental effects of dredging to find some references to turbidity and suspended sediments associated with cutterhead dredging.

With regard to the 500 meter buffer, **Howard Hall** asked **Doug Huggett** if turbidity was the major concern. **Doug** said at the time the rule was adopted, the need to protect the hardbottom areas was recognized so they adopted what was believe to be a conservative 500 meter buffer. He was not sure if direct cause and effect information went along with the rule, the decision was apparently based on erring on the conservative side.

Doug again pointed out the conditions in the rule regarding public benefits that could be used to modify the 500 meter buffer. He just needs information that he can use to support some other limit. **Erin** indicated that work in other areas has been supported by research. In Florida, buffers ranging from 250 feet to 400 feet have been permitted. The 250-foot buffer was applied in less sensitive areas and was dictated by the distance needed to anchor the dredge. **Doug Huggett** said he is willing to be swayed, he just needs concrete data. He mentioned that when the report gets to the crux of the matter, i.e., the size of the buffer, very little supporting information is included. He would like to see more proof that the 400-foot buffer has not had any negative impacts. **Erin** said she had that information and would include it the final report.

Erin said the main difficulty comparing North Topsail Beach to other areas is the high level of turbidity and suspended sediments in the area. **Dick Macartney** pointed out that if the 400-foot buffer works in clear water, then it would seem that using it in "dirty" water should not create a problem. **Mickey** said he could not kill the project just because similar conditions do not exist.

Fritz Rhode said he would like to see any comments from other agencies regarding the used of the 400-foot buffer in Florida. **Erin** said she had provided a response from NMFS at a previous PDT meeting but would provide additional comments. **Doug Huggett** asked if he could see any rule language from Florida that addressed the hardbottom buffer issue. **Erin** said she would check into it.

Doug Piatkowski asked if removal of sediment from the borrow area indirectly exposed more hardbottom due to sloughing, would that be consider a positive impact? **Jarrett** said that due to the shallow depth of the proposed dredge cuts (maximum 10 to 15 feet) combined with a 400-foot buffer would not likely expose any additional hardbottom areas. **Doug Huggett** said they want the hardbottoms to operate naturally and any artificial exposure of hardbottoms probably would not be viewed as a benefit.

Howard Hall, noting that the North Topsail Beach project has a 30 year life, raised the prospect of keeping the 500 meter buffer for some period of time (10 years) and based on monitoring; expand the buffer in the future. **Doug Huggett** pointed out that the 500-meter buffer

would kill the project. **Jarrett** said that the 500-meter buffer would eliminate 70% of the borrow area including the section that has coarse grain material. The remaining 30% would be too fine to construct the project in the areas where near shore hardbottoms encroach within 1000 feet or so. Accordingly, the approach will be to show that a 400-foot buffer is sufficient to protect the hardbottom areas and mitigation measures including monitoring will be used to comply with exceptions allowed in the rules.

Fritz Rhode suggested that **Howard Hall** check with his counterparts in Florida to get their take on the size of the buffers.

Doug Piatkowski pointed out that the Corps projects under consideration for Topsail Island will be addressing the same issue. Adherence to the 500-meter buffer could also negatively impact the federal projects. **Doug Huggett** indicated that regardless of the decision for North Topsail Beach, other projects will be considered on a case-by-case basis, i.e., the North Topsail Beach decision will not set a precedence for the other projects.

Doug Huggett referred to a statement on page 9 of the report that said the waters off North Topsail were not classified. He said he believed all salt water areas were classified as SA. **Erin** said she would check again. In any event, she was adopting the 25 NTU limit which is applicable to SA waters.

Mickey asked the PDT to provide written comments to him within 2 weeks. He will send out a reminder to all members.

In response to a question by **Dick Macartney** regarding the next steps, **Mickey** said we need to finalize the monitoring plans, combined the 400-foot buffer analysis into the hardbottom monitoring plan, and reach a final conclusion on this issue.

The next PDT meeting will occur in about 2 months.

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18 July 2006

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Becky Bowman	NTB – Bch Nour. Comm.	Rubecca@charter.net	910-328-2382

Minutes
3 October 2006 PDT
North Topsail Beach Town Hall

Mickey Sugg said the topics for discussion included bird monitoring, results of the hard bottom surveys for the South Section, and the borrow area buffer zone analysis.

BIRDS

Erin Hague had provided a handout describing the proposed bird monitoring plan (North Topsail Beach Shoreline Protection Project – Draft Bird Monitoring Plan – Piping Plover (Charadrius Melodus), Colonial, Waterbirds, and Other Shorebirds). **Erin** indicated that the monitoring would focus on four main areas in the inlet complex as shown on Figure 2 of the handout. **Sue Cameron** and **David Rabon** had reviewed the plan and were in general agreement. Issues with the frequency of the monitoring in a previous draft plan had been resolved. The monitoring plan will include all tidal cycles during each month but not during each monitoring event. The methods correspond to those used for Bogue Inlet. Erin said she would like to start the bird monitoring in November.

Dick Macartney asked about the cost of the monitoring plan. **Erin** said she has asked the subcontractor, CZR, to provide an estimate. Based on the Bogue Inlet bird monitoring plan, **Erin** expects the cost to range somewhere between $30K and $40K per year. Erin had approached Camp Lejeune regarding there participation in the monitoring but they were not interested. However, Camp Lejeune will share data it collects from its piping plover monitoring.

Regarding possible monitoring by the NC Wildlife Resources Commission (NCWRC), **David Allen** said they would prefer that someone else do it to avoid any conflicts. Also, monitoring the North Topsail Beach project would put a strain on NCWRC resources. **Erin** said finding someone to do the monitoring is not an issues since CZR is fully capable, only looking for ways to cut cost.

Mickey asked if monitoring would be performed for each maintenance cycle. **Sue Cameron** said that since this a 30 year project, following the initial monitoring period, which includes one year prior to construction and three years post-construction, that perhaps 10 year updates would suffice. The major concern expressed by **Sue** was the possible change in habitat associated with maintaining the inlet channel in a fixed location. She suggested that monitoring of the change in habitat over a long period would provide that type of information. **Jarrett** said that aerial photos are being used to measure changes in habitat associated with the Bogue Inlet project and a similar approach could be used for North Topsail Beach/New River Inlet. **Sue** said she would like to see changes in elevation as well. **Erin** said that post-construction would include some surveys. **Jarrett** said some of the aerial photos could be stereoscopic which would allow development of topographic maps of the area. **David Allen** said that monitoring for 30 years was not needed. If they had information on the changes in habitat, the impacts on birds could be interpreted from changes in habitat.

Sue Cameron suggested possibly combining Areas 1 and 2 on the north end of North Topsail Beach. **Erin** indicated that the areas were distinct due to recreational use and access.

Sue wanted to make sure that the survey areas or transects are not stationary since the area could change over time. She had seen this at Bogue Inlet.

Sue also suggested that Area 3, located on the southwest end of Onslow Beach be expanded to include the mud flats behind the island. **Erin** expressed some concern over access, however, **Sue** said she had walked the area and would work with the Marine Corps to obtain access. ***(Note: the bird monitoring plan has been revised to include the mud flat area behind Onslow Beach)***

David Allen said reference to migratory birds on page 3 of the handout should be changed to flyovers since the birds might not be migrating. He also said that all banded birds should be noted not just piping plovers. **Erin** agreed and indicated that the plan included noting all birds with bans.

With regard to possible posting and roping some areas to control access, **Sue** suggested that portions of Area 1 be roped especially during breeding season.

Doug Huggett voiced his concern over restricting pubic access noting the mandates for the coastal management program to protect the public's right to access pubic trust areas. He noted that DCM had to be careful since there have been attempts by others to restrict access for reasons other than protecting birds. However, he noted that a compromise was worked out for Bogue Inlet which did not satisfy everyone but did include some restrictions on public access to certain sensitive areas. **Doug** felt that something could be worked out in this case but was not sure at this time what that might be. **David Allen** suggested possibly roping off the back portion of Area 1 during the nesting season while leaving a corridor along the waterline for public access. This would be similar to Bogue Inlet where a 100-foot public corridor was established along the waterline. The area would be reopened following nesting season.

Ownership of Area 1 was discussed. If the area is privately owned, then roping off areas would probably have to be approved by the owner. **Shelia Cox** confirmed that the area is privately owned (Paggett Properties).

Howard Hall said that a Biological Assessment (BA) would be required. If the BA found a likely effect, then that could require a Biological Opinion (BO). **Erin** noted that she would be entering into informal consultation. If the result of the informal Section 7 consultation was not likely to adversely affect, then a BO would not be necessary. **Howard** said he would probably be responsible for the Section 7 but would rely on the expertise of **David Rabon**.

David Allen complemented **Erin** on a well written and comprehensive monitoring plan.

Mickey asked that all bird data from Camp Lejeune and NCWRC be included as an appendix to the EIS.

SOUTH SECTION

The following is based on notes taken by Tom Jarrett due to tape recorder problems.

Erin Hague provided a handout entitled, "Hardbottom Resources – Biological Monitoring, construction Practices and Avoidance Measures."

Erin reported that the side scan survey and dive inspection of the area around the expanded borrow area did not reveal any hardbottoms.

Two monitoring transects (TS-16 and TS-17 shown on Figure 2 of the handout) were added in response to **Doug Huggett's** suggestion provided at the last PDT meeting. TS-16, located in the middle of the borrow area, has relatively low relief and was added to monitor changes in the middle of the "horseshoe-shaped" borrow area. TS-11, which is also located near the middle of the "horseshoe", is near the edge of hardbottoms that are periodically covered and uncovered by sand.

Dick Macartney asked what percentage of the hardbottom areas are covered with sand to which **Erin** replied that she did not know. **Erin** noted that hardbottom areas surveyed by divers on different occasions have shown natural changes due to the movement of mud and sand over the hardbottom areas. **Howard Hall** asked if some of the material may have come from the recent dune reconstruction conducted by the town following Hurricane Ophelia. **Jarrett** responded that the volume trucked in to rebuild the dunes was rather small (approximately 43,000 cubic yards) and that most of material still remains in the new dune.

Erin said turbidity readings taken at TS-12 also located near the middle of the borrow area were 4.5 NTU measured 1 meter off the bottom. TS-12 has about 25 to 30 cm of relief (approximately 1 foot).

The side scan survey of the near shore area lying off the south section indicated several potential hard bottom areas. The largest area is located in about 18 feet of water off baseline stations 700+00 to 750+00. A side scan survey of this area taken in 2005 indicated 5.25 acres of hardbottom while the 2006 survey showed 8.27 acres. This indicates that the hard bottom areas are being covered and uncovered by natural sediment movement. **Doug Piatkowski** asked if these results could be affected by noise in the data to which **Erin** responded that **Ken Willson** of the CPE GeoTech section had confirmed the interpretation of the hard bottom area for the two surveys and that the differences were due to sediment layers over the hardbottom.

TS-18 and 19, which are about 1000 feet apart, were established on this hard bottom area (see Figure 2 of the handout). Turbidity observations taken at both transects within 30 minutes of each other indicated 17.6 NTU at TS-18 and 2.3 NTU at TS-19. **Erin** speculated that localized currents and eddies associated with the variable relief was possibly a contributing factor to the wide range of turbidity observations.

Another area of potential hardbottom shown on the side scan survey was located offshore of the south town limits. Dives on this site revealed that it consist of shell and rock fragments coating the surface along with sand and mud and was not hardbottom. Turbidity measurements taken offshore of baseline station 590+00 and 595+00 (500 feet apart) also showed a high degree of variability with 35.2 NTU measured off station 590+00 and 9.67 NTU off station 595+00. Again, these observations were taken with 30 minutes of each other.

Mickey and **Doug Huggett** asked if we could be missing hardbottom areas due to the movement of sediment that periodically covers and uncovers hardbottom areas. **Erin** said that in the vicinity of the borrow area; she is certain that all hardbottom resources have been identified from the results of the side scan, seismic, and vibracore surveys.

The following was based on the tape recording.

HARDBOTTOM MONITORING PLAN

Erin said that two hardbottom monitoring transects had been added for the South Section resulting in a total of 6 near shore transects for the entire project. She also has selected two control sites that are outside the area of influence of the project. The two transects are located outside the equilibrium toe of the fill in about 25 feet of water and lie offshore of baseline stations 810+00 and 940+00.

Transects 16 and 17 have been added in the vicinity of the offshore borrow area to cover areas previously excluded. Also, three control sites will be established for the offshore area, one designated as TS-15, is 4,400 feet southwest of the borrow area. The other two control sites would be located off baseline stations 870+00 and 990+00 in depths of 40 feet and 35 feet respectively. Due to visibility issues, most of the monitoring will be done in early spring.

Erin pointed out that multibeam beam surveys have been added to measure elevation changes in the nearshore area, the area northeast of the borrow area, and in the hardbottom area located in the middle of the borrow area (TS-9 to TS-12 and TS-16). The multibeam surveys will be conducted 30 days prior to construction and within 30 days after construction.

Sediment sampling will be conducted in the vicinity of the borrow area and at the control sites to measure possible resuspension of sediment during the dredging operation.

Fritz Rhode asked about anchor placement. **Erin** said all anchors would be required to stay within the 400-foot buffer and that anchors are normally about 200 to 250 feet from the dredge. **Mickey** expressed some concern over the movement of the anchors during the operation and how installation of the anchors could be controlled so as not to impact the hardbottoms. **Erin** said the 400-foot buffer is free of any hardbottoms and restricting the operation to this buffer area would avoid impacts. Installation of the anchors will be controlled by navigation systems such as DREDGEPAK and/or HYPAC which will prevent placement outside the buffer area.

Erin said that four 200-foot wide pipeline corridors have been identified (Figure 5 in the hardbottom handout). The corridors are over 450 feet from the nearest know hardbottom areas. The proposed plan calls for swimming portions of the pipeline corridors that pass within 400 feet of the edge of the hardbottom areas.

Doug Huggett had a concern with reporting damage to hardbottom areas after the fact and how quickly agencies would be notified of the damage. He indicated that the damage could lead to a cease operation notice. After some discussion, there was general agreement that the pipeline corridors should be visually inspected at least a week prior to installation of the pipeline and the corridors adjusted based on the finding of previously unidentified hardbottom resources in the corridors. In addition to the visual inspection, probes would be made to determine if hardbottoms lie just below the ocean bottom.

Doug acknowledged that it seemed every effort was being made to avoid impacts to the hardbottoms but in the event damage did occur, **Doug** asked the others what they though an appropriate response should be. **Ron Sechler** question what type of impact could occur other than a possible leak in the pipe. **Ron** noted that the pipe is unlikely to move under normal circumstances. **Fritz** suggested that the area be surveyed following construction and any damage to the hardbottom areas documented with photos and other observations and reported to the agencies. Appropriate mitigation requirements would be determined based on the damage assessment. **Doug Huggett** said he was comfortable with that approach and that the State permit would include mitigation requirements in the event of damage. He said he would rely on Federal resource agencies to determine the proper form of mitigation.

Mickey asked what would happen if the pipe did spring a leak. **Jarrett** said the pipe would be raised to the surface and repaired and then reinstalled. **Mickey** asked if reinstallation should be treated the same as the initial installation. **Erin** said that if previous inspections of the pipe corridor did not show any hardbottoms in the area, then a new inspection prior to the pipe being reinstalled would not be necessary.

Tape problem, the following is from notes taken by Tom Jarrett.

Erin reported on examples of turbidity monitoring at 3 Florida projects which are summarized in the handout. All the projects included were constructed with pipeline dredges.

Mickey asked what is meant by significant with regard to the results of the monitoring. **Erin** explained that it based on a statistical analysis of the data.

Shelia asked if DREDGPAK was used to which Erin responded “yes”.

Howard Hall asked **Doug Huggett** what was the basis of the State’s 500 meter buffer. **Doug Huggett** responded that he thought it was associated with mining and offshore oil explorations not beach nourishment.

Michelle Duval asked how long monitoring would take place. **Erin** said monitoring would occur bi-weekly for two months prior to construction and once every two weeks during the initial two months of construction during construction. Depending on the results of monitoring during construction, the frequency could be reduced to once per month. A post-construction monitoring survey will be conducted within 30 days following the removal of all contractor equipment.

Mickey said that a decision was needed regarding the proposed 400-foot buffer.

Doug Huggett said that if the project is for public benefit and efforts are taken to avoid or minimize impacts as much as possible then a smaller buffer could be allowed.

Fritz Rohde and **Ron Sechler** had talked with their counterparts in Florida and both agreed that the 400-foot buffer should be ok.

Mickey said a Notice of Intent had been published for the south section on October 6.

A preliminary draft of the EIS should be available by the middle of November.

List of PDT Participants
3 October 2006

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Minutes
25 April 2007 PDT
North Topsail Beach Town Hall

Mickey Sugg said the topics for discussion included reviewing the major points of the Preliminary Draft Environmental Impact Statement (PDEIS). He noted that other agencies present could include verbal additions and/or changes. The PDEIS will be reviewed section by section.

PROJECT STATUS

Doug requested an update on finances and timing of the project. This information will have a bearing on the amount of resources the agencies can put forward to the project. **Mickey** agreed and stated that an update is needed based on the perception that the North Topsail Beach Shore Protection Plan (NTB SPP) project is not moving forward due to voting and funding issues. **Mickey** requested an update regarding a timeframe on voting from Brad Smith and Sheila Cox.

Brad Smith replied that the North Topsail Beach Board of Aldermen (Board) has approved the continuation of CPE's (Coastal Planning and Engineering) contract to move forward with the permitting process. North Topsail Beach (Town) is working on funding and a grant application with the County and the State. **Brad** explained for the grant application to be considered, the Town needs to continue with the permit process. The grant application will be placed on the bottom of the pile if the Town is not actively pursuing a permit. The application represents 10.25 million dollars for the Town. If pushed to a referendum, it will occur in fall of 2007. The Town is hopeful financing should be in place for the NTB SPP project in 12 months.

Mickey asked Brad if the Town has a new target date to complete construction. **Brad** referred the timeline to Tom Jarrett, who was not present at the meeting. **Mickey** asked when the Board voted and what was the motion. **Brad** replied that the Board voted on April 5th and the motion was to continue CPE's contract and move forward with the permitting process. The contract does not include monitoring and construction of the project. The Town has committed the approximately $400,000 that CPE has estimated to complete the permitting process (PDEIS through to EIS and approval of permits). **Brad** commented that the Town is committed to protecting the beach. The Town is reviewing various approaches to the project, possibly completing the project in phases and removing the southern end of the project. **Mickey** asked if the Town would like to include the southern section in the project and Brad responded that the Town and CPE will need to discuss the timing of the project and phase issue and come to a decision. The Beach Nourishment Committee will need to make a final decision. **Becky Bowman** noted that Jarrett said to leave the southern end of the project in the DEIS. **Craig Kruempel** noted that a smaller project can always be built and it is the Town's decision to move forward with a phased approach or entire project.

PDEIS Revisions

Mickey shifted the discussion to the PDEIS. Mickey noted to the group that an email would be provided after the meeting asking for additional PDEIS comments from the PDT and would include a deadline for comments. **Mickey** said that an Executive Summary will have to be completed for the DEIS and asked the PDT if any changes needed to be made to the Table of Contents or layout of the document. Mickey asked if a cost analysis was included in the document. **Brad** noted that a budget summary would be addressed and included in the PDEIS. He also mentioned that the Town has set-up a capital reserve fund for the beach nourishment project. **Mickey** commented that it is uncertain where the finance discussion should be placed, possibly in Section 1.6 Decisions to Be Made. A history and inception of project, as well as disclosure of avenues in which Town is going through to pay for the project would need to be included. **Brad** noted that Town will have approximately 1.5 million dollars dedicated to beach nourishment based on windfall funds from Onslow County as ad valorem. **Craig** asked if Mickey would like to see the detailed cost and funding analysis to be included in Appendix B. Engineering Analysis or within the PDEIS document. Mickey responded that the analysis should be a stand-alone paragraph included in page 5 of Section 1.6 Decisions to Be Made. **Mickey** said the information is important enough to be included in the body of the document versus in an appendix.

Mickey continued the layout discussion by noting Section 4.3 Permit Area Habitats tables should include flora and fauna so readers can search for specific information. **Sue Cameron** agreed and said the habitat section should be a natural resources section with descriptions of flora and fauna. Habitat descriptions are currently under wildlife section. **Mickey** agreed and said Section 4.3 possibly could be relabeled to read Permit Area Habitats including Flora and Fauna or Permit Area Habitats and Natural Resources. **Steve Everhart** asked if NCWRC comments have been forwarded to CPE. Mickey said yes and asked if their comments included the current revisions being discussed. **Sue** said yes and also included that species descriptions were confusing.

Being the Preliminary DEIS, **Mickey** commented that figures, such as project area and location map, should be included in Section 1.0 Project Purpose. Mickey said that he does not want to go through too much detail in the PDT meeting; he can sit down with CPE representatives for more detailed revisions. Section 1.2.2 Supplemental Appropriation discussion should be elaborated on to include types of funding and how much funding has been used with those particular types of funds. He continued with page 3, Section 1.3 Project Objectives, in which CPE may want to describe history of building loss. **Becky** responded that eight (8) buildings (duplexes) have been condemned. **Mickey** said that the history description may also want to be in included in the Section 1.3 Project Objectives and Section 3.2.1 No Action Alternative.

Mickey continued by stating the Permit Area definition needs to be elaborated on or removed from Section 1.3 Project Objectives, because it is discussed again in Section 4.0 Affected Environment. He also noted to include the purpose of the Permit Area and to define it as the COE defines a permit area. The definition of Permit Area needs to be included in Section 4.0 Affected Environment as well as include a map of the Permit Area directly after the definition. **Mickey** commented that in Section 1.3.1 Project Needs and Opportunities; include the names of

the threatened duplexes as described in the document. He noted that a personal touch needs to be included in the PDEIS document and avoid the textbook style of writing, such as how North Topsail Beach relates to each of the alternatives. Elaborate on specific impacts, such as salt marsh, by describing each impact within the Permit Area, how much is present, and where it is located.

In Section 1.3.1 Project Needs and Opportunities (page 4) in which the document describes how the project will reduce or eliminate erosion rates, **Mickey** stated that the mileage or the length of beach to be protected should be included and that the project will not eliminate erosion rates, but will mitigate for past erosion. **Michele Duval** agreed that alternatives may not eliminate erosion rates. Mickey also noted in Section 1.4 Related Actions the paragraph on the Corps Feasibility Study for storm damage needs to be elaborated on and reference the Corps DEIS. **Mickey** reiterated the need to include the financial resources summary in Section 1.6 Decisions to Be Made.

Mickey asked Doug Huggett if all the appropriate laws are described in the document, **Doug** said yes. Section 2.0 Scoping Issues (page 13); Mickey added that the Notice of Intent will need to be included. **Mickey** asked to include a statement regarding the minutes of each PDT meeting. Section 3.0 Project Alternatives (page 15) will need to include a detailed cost analysis for each described alternative. **Mickey** also requested that a more specific description is given for each alternative. Mickey asked the PDT if they would like to see a cost analysis within each alternative description, **Doug** replied by confirming that a cost analysis should be included in this section if alternatives are to be discounted.

Mickey stated that the first sentence in the second paragraph of Section 3.2 Description of Alternatives should be rephrased and removes the word "significant". **Sue Cameron** mentioned that it wasn't certain that the Applicant's Preferred Alternative will effectively protect the structures on the north end; she requested that language regarding the potential negative impacts, such as mining the ebb tidal shoal could increase erosion rates, is addressed. **Mickey** also added that the three beach sections within the interim beach fill project will need to be initially described in detail within the project description section (*i.e.* include length of beach section). The offshore borrow source (*i.e.* include specifics such as: size, location) needs to be included within the Preferred Alternative description to provide background information for the public reader.

Sue Cameron asked if the PDEIS included a percent of ebb tidal shoal that would be removed with the Preferred Alternative. She stated that her main concern was the impacts of the surrounding beaches during the natural reconstitution of the ebb tidal shoal post construction. She requested that the amount of ebb tidal shoal to be removed in relation to the preferred channel depth and width. **Steve Everhart** added that within the Environmental Consequences section, the Preferred Alternative is described as being the best alternative for birds, while WRC sees the No Action Alternative being the best for birds, environmentally. **Mickey** commented that the description regarding the offshore borrow site will need to be elaborated on for each alternative.

As **Mickey** and **Doug Huggett** discussed, Section 3.2.2 Buy-Out Alternative is a financial consideration and will only include those properties that are publicly purchased. An additional alternative labeled Relocation and Abandonment will described those properties that are funded by private citizens to physically relocate the structures or abandon the structures. **Craig** added that the second paragraph of the No Action Alternative implies that relocation of structures by individuals will be implemented under this alternative. Mickey stated that the No Action Alternative could be interpreted as implementing an existing management plan or to take no action. CAMA rules, responded **Doug**, indicate the relocation of structures is a specific response to erosion and will need to be treated as an additional alternative. **Mickey** added that the DEIS No Action Alternative should include that the COE would continue maintenance events on the North end in which **Becky** responded by stating two placement events have occurred.

Section 3.2.4 Alternative 4 should be relabeled as Beach Nourishment without the Relocation of Inlet Channel, as requested by **Mickey**. He also stated that three subparts will need to be included in Alternative 4 as discussed in the December 14th minutes, that describes a sand source from offshore borrow area only, a sand source from upland borrow area only , and a combination of both. **Mickey** continued with revisions by stating portions of Section 3.2.5 Alternative 5 will need to be moved to the consequences section as well as descriptions in Section 3.2.6 Alternative 6 should also be included in Alternatives 3 and 5.

Mickey asked Sheila to explain how the Town has reacted to the Holmberg technology. Sheila responded that the chairman is writing a letter and developing a proposal, however the Town is looking to other alternatives. **Doug** explained that Coastal Management considers the Holmberg technology to be groins and should be included in the language as prohibited. **Mickey** requested the language on terminal groins be expanded to include type of material and description.

Section 4.1 will need to include additional information on man-made vs. natural dune systems within the Project Area, explained **Mickey**. He also added that further discussion on the sand compatibility study as it refers to grain size and quality of sand from the offshore and inlet sources will need to be included in Section 4.1.1. **Doug** reiterated to the PDT the recent NC Sediment Criteria Rule the State adopted in February of 2007. **Brad Smith** asked if the proposed legislation on sand mining in inlets and beach nourishment will affect this project if it passes. The legislation would need to be reviewed and will depend on how the law is written, explained Doug and Mickey.

Sue asked if sand samples would be taken prior to each maintenance nourishment event. **Doug** said it would be required for each event. **Craig** reiterated that a compatibility study will be done for each event. **Ken Willson** added that the requirements are addressed in the new NC Sediment Criteria Rules.

Steve Everhart stated that new leatherback nesting data is available for NC. **Sue** requested that overwash habitat be discussed within Section 4.3 Permit Area Habitats. **Mickey** added that each Permit Area habitat type should be described as it relates to the Permit Area. **Sue** commented that the PDEIS document needs to include additional information on barrier island ecology and stress the importance of barrier island functions, such as natural overwash and barrier island

migration. The presence of structures on the barrier islands does not allow natural overwash to occur and as a result, we are seeing declines in bird populations.

Doug explained that even though DMF representatives are not present, he would like to reiterate that the Marine Fisheries Commission is in the process of changing the SAV definition from SAV bed to SAV habitat to include whether SAV has grown, is growing, or could grow in an area. **Michelle** added that there are various water quality parameters that help define SAV habitats. **Mickey** requested Section 4.3.1.2 to include information on whether the habitat is conducive to SAV.

The NC Waterfront Access Committee has recently finalized a report on recreational resources, explained **Michelle**, and should be referenced in Section 4.9 Recreation Resources. Mickey requested that a summary chart of environmental consequences, as was included in the Bogue Inlet FEIS, be developed for the DEIS. **Mickey** and **Craig** discussed where in the document a description of the larger investigation area and how that area was minimized based on specific issues (*i.e.* presence of hardbottom, sand compatibility) should be included. **Michelle** said that there is language present throughout the document that explains the larger study area however it should be pulled together in one section, perhaps in the Alternatives section added **Mickey**.

Mickey asked that short- and long-term impacts are addressed in Section 5.3 in addition to direct and indirect impacts. He explained that indirect impacts can be short or long-term, such as a sediment introduction that destroys a benthic community but the community comes back in 4 months – the result would be an indirect short-term impact. **Sue** reiterated that the language seen in the cumulative effects section of 5.3.1.1 poses a negative impact on salt marshes and should be rephrased to define the potential transitions as natural processes.

Michelle asked if Compatibility with Project Objectives is needed within each of the Permit Area Habitats under Section 5.3. **Doug** replied that it is implied that the Purpose and Need of the project states that the project will be completed in a practical and feasible environmental manner. **Michelle** mentioned that it may need to be rephrased. It can be revisited later, Mickey added.

Mickey requested that research on direct and indirect impacts be referenced, such as recovery rates of benthic communities, as discussed in Section 5.3.4.1. **Sue** also stated that a comment stating there is not a lot of research on long-term multiple event projects.

In Section 5.3.4.2.1, shoreline stabilization should be replaced with shoreline erosion response, **Doug** stated. Using the term shoreline stabilization gives the false impression or implies that the shoreline will be stable after sand is placed on the beach and that is not the intent of the project. **Michelle** noted that even though economic impacts are described in Section 5.14, costs of implementing each alternative should also be included.

Mickey stated that a nearshore hardbottom buffer discussion should be included in Section 3 and 5.16, describing how the PDT arrived at a 400 foot buffer. **Doug** added that language from the CRC rule that mandates a project should begin with a 500 meter buffer and allows the State and PDT review process to decrease the buffer as a public benefit based on specific situations should

be included as part of the argument. **Doug** confirmed that Fritz did formally accept the 400 foot buffer.

(A discussion on hardbottom mitigation and monitoring occurred after the tape was stopped. Doug told the group that hardbottom mitigation would be required by the State as part of the variance that reduces the buffer zone from 500 meters to 400 feet. Based on the language in the State rule, mitigation is part of the requirement for issuance of a variance to the established hardbottom buffer. Craig asked the PDT if mapping of the SNHA offshore or other technically 'out-of-kind' activity may be considered as mitigation. A teleconference will be scheduled with a small representative group of the PDT to discuss hardbottom mitigation issues.)

List of PDT Participants
25 April 2007

Name	Representing	email	Phone
Steve Everhart	NCWRC	steve.everhart@ncwildlife.org	910-796-7217
Mickey Sugg	Corps of Engineers	Mickey.T.Sugg@usace.army.mil	910-251-4811
Brad Shaver	Corps of Engineers	Brad.E.Shaver@usace.army.mil	910-251-4611
Becky Bowman	North Topsail Beach	zubecca@charter.net	910-328-2382
Shelia Cox	North Topsail Beach	sheliac@north-topsail-beach.org	910-328-1349
Richard Peters	Alderman, NTB	RPeters2000@msn.com	910-328-2488
Doug Huggett	NC Div. Coastal Mgmt.	doug.huggett@ncmail.net	252-808-2808
Michelle Duval	Enviro. Defense	mduval@environmentaldefense.org	919-881-2917
Ken Willson	Coastal Planning & Engr.	kwillson@aol.com	910-791-9494
Craig Kruempel	Coastal Planning & Engr	ckruempel@coastalplanning.net	561-391-8102
Susan Cameron	NC Wildlife Res. Comm.	camerons@coastalnet.com	910-325-3602
Brad Smith	Town Manager, NTB	bsmith@north-topsail-beach.org	910-328-1349

APPENDIX A – SUBPART 2

Pertinent Correspondence

LIST OF PERTINENT CORRESPONDENCE

Letter	March 4, 2005	Loraine Carbone, Town of North Topsail Beach to Commanding General, Marine Corps, Camp Lejeune
Letter	April 15, 2005	Scott Brewer, Marine Corps, Camp Lejeune to Loraine Carbone, Town of North Topsail Beach
Letter	May 25, 2005	Mickey Sugg, Corps of Engineers, Wilmington District to Tom Cassell, Town of North Topsail Beach
Letter	June 15, 2005	Steven Everhart, North Carolina Wildlife Resources Commission to Mickey Sugg, Corps of Engineers, Wilmington District
E-Mail	June 22, 2005	Mickey Sugg, Corps of Engineers, Wilmington District to Erin Hague, Coastal Planning & Engineering, Inc., Tom Jarrett, Coastal Planning & Engineering, Inc., Tom Cassell, Town of North Topsail Beach, Shelia Cox, Town of North Topsail Beach, and Craig Kruempel, Coastal Planning & Engineering, Inc.
Letter	July 7, 2005	Miles Croom, National Oceanic and Atmospheric Administration to Colonel Charles Alexander, Jr. Corps of Engineers, Wilmington District
E-Mail	July 8, 2005	Thomas Barbee, Marine Corps, Camp Lajeune to Erin Hague, Coastal Planning & Engineering, Inc.
Memorandum	July 28, 2005	John E. Pulliam, Jr., Corps of Engineers, Wilmington District to Thomas Barbee, Marine Corps, Camp Lejeune
Letter	August 1, 2005	Mickey Sugg, Army Corps of Engineers, Wilmington District to Ted Wilgis, North Carolina Coastal Federation
E-Mail	August 1, 2005	Anne Deaton, North Carolina Division of Marine Fisheries to Erin Hague, Coastal Planning & Engineering, Inc.

E-Mail	August 22, 2005	Sue Cameron, North Carolina Wildlife Resources Commission to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	September 7, 2005	Howard Hall, U.S. Fish and Wildlife Service to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	December 15, 2005	Mickey Sugg, Corps of Engineers, Wilmington District to Erin Hague, Coastal Planning & Engineering, Inc., Craig Kruempel, Coastal Planning & Engineering, Inc., Shelia Cox, Town of North Topsail Beach, Loraine Carbone, Town of North Topsail Beach, and Tom Jarrett, Coastal Planning & Engineering, Inc.
E-Mail	January 3, 2006	David Rabon, U.S. Fish and Wildlife Services to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	June 13, 2006	Margarat Miller, National Oceanic and Atmospheric Administration to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	July 18, 2006	Sue Cameron, North Carolina Wildlife Resources Commission to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	July 20, 2006	Matthew Godfrey, North Carolina Wildlife Resources Commission to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	July 20, 2006	Noelle Lutheran, North Carolina Division of Water Quality to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	July 26, 2006	Matthew Godfrey, North Carolina Wildlife Resources Commission to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	September 6, 2006	Erin Hague, Coastal Planning & Engineering, Inc. to Michelle Duval, Environmental Defense and Mickey Sugg, Corps of Engineers, Wilmington District

E-Mail	September 13, 2006	Matthew Godfrey, North Carolina Wildlife Resources Commission to Lauren Floyd, Coastal Planning & Engineering, Inc.
E-Mail	September 20, 2006	Matthew Godfrey, North Carolina Wildlife Resources Commission to Lauren Floyd, Coastal Planning & Engineering, Inc.
E-Mail	September 20, 2006	Lauren Floyd, Coastal Planning & Engineering, Inc. to Matthew Godfrey, North Carolina Wildlife Resources Commission
E-Mail	October 12, 2006	Sue Cameron, North Carolina Wildlife Resources Commission to Erin Hague, Coastal Planning & Engineering, Inc.
Letter	October 30, 2006	Scott Brewer, Marine Corps, Camp Lejeune to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	October 31, 2006	Erin Hague, Coastal Planning & Engineering, Inc. to Sue Cameron, North Carolina Wildlife Resources Commission
E-Mail	October 31, 2006	Tom Jarrett, Coastal Planning & Engineering, Inc. to Mickey Sugg, Corps of Engineers, Wilmington District and Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	November 30, 2006	Don Field, National Marine Fisheries Service to Erin Hague, Coastal Planning & Engineering, Inc.
E-Mail	January 30, 2007	Ron Sechler, National Marine Fisheries Service to Dawn York, Coastal Planning & Engineering, Inc., Erin Hague, Coastal Planning & Engineering, Inc. and Mickey Sugg, Corps of Engineers, Wilmington District
Memorandum	February 6, 2007	Steven Everhart, North Carolina Wildlife Resources Commission to Mickey Sugg, Corps of Engineers, Wilmington District

E-Mail	February 12, 2007	Mickey Sugg, Corps of Engineers, Wilmington District to Erin Hague, Coastal Planning & Engineering, Inc., Tom Jarrett, Coastal Planning & Engineering, Inc., Sheila Cox, Town of North Topsail Beach, and Loraine M. Carbone, Town of North Topsail Beach
E-Mail	May 9, 2007	Sheila Cox, Town of North Topsail Beach to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	June 11, 2007	Dick Macartney, Town of North Topsail Beach to multiple recipients
E-Mail	July 2, 2007	Dawn York, Coastal Planning & Engineering, Inc. to Scott Brewer, Marine Corps, Camp Lejeune
E-Mail	July 13, 2007	Shelia Cox, Town of North Topsail Beach to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	July 17, 2007	Shelia Cox, Town of North Topsail Beach to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	July 24, 2007	Sue Cameron, North Carolina Wildlife Resources Commission to Adrienne Carter, Coastal Planning & Engineering, Inc.
E-Mail	July 30, 2007	Suzanne Mason, North Carolina Natural Heritage Program to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	July 31. 2007	Thomas Blount, Corps of Engineers, Wilmington District to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	July 31, 2007	John Finnegan, North Carolina Natural Heritage Program to Heather Vollmer, Coastal Planning & Engineering, Inc.
E-Mail	August 1, 2007	Steve Mercer, Coastal Transplants to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	August 3, 2007	Dawn York, Coastal Planning & Engineering, Inc. to Deborah Hill, Town of North Topsail Beach
E-Mail	August 10, 2007	Doug Huggett, North Carolina Division of Coastal

		Management to Tom Jarrett, Coastal Planning & Engineering, Inc.
E-Mail	August 13, 2007	Sheila Cox, Town of North Topsail Beach to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	August 14, 2007	Shelia Cox, Town of North Topsail Beach to Dawn York, Coastal Planning & Engineering, Inc.
E-Mail	August 15, 2007	Syd Wiford, Town of North Topsail Beach resident to Tom Jarrett, Coastal Planning & Engineering, Inc.
E-Mail	August 17, 2007	Dawn York, Coastal Planning & Engineering, Inc. to Adrienne Carter, Coastal Planning & Engineering, Inc.
E-Mail	August 22, 2007	Harry LeGrand, North Carolina Natural Heritage Program to Adrienne Carter, Coastal Planning & Engineering, Inc.
E-Mail	August 23, 2007	Jeff Beane, North Carolina Museum of Natural Sciences to Adrienne Carter, Coastal Planning & Engineering, Inc.
E-Mail	October 26, 2007	Sue Cameron, North Carolina Wildlife Resources Commission to Dawn York, Coastal Planning & Engineering, Inc.
Letter	December 11, 2007	John Townson, US Marine Corps, to Erin Hague, Coastal Planning & Engineering, Inc.
Letter	February 13, 2008	Mickey Sugg, Corps of Engineers, to Renee Gledhill-Earley, North Carolina Department of Cultural Resources
Letter	March 12,2008	Peter Sandbeck, North Carolina Department of Cultural Resources to Mickey Sugg, Corps of Engineers
Letter	January 13, 2009	Georgette Scott, North Carolina Division of Water Quality to Donald Martin, Town of North Topsail Beach

From: Anne Deaton [Anne.Deaton@ncmail.net]
Sent: Monday, August 01, 2005 1:27 PM
To: Erin Hague
Cc: Fritz Rohde
Subject: Re: Recent SAV survey

No. It was a visual assessment with only a few non-vertical photos taken in the northern area. Also we only went as far north as Chadwick Bay. SAV does show up on some of the DCM aerial photos but the most recent photos are 2000 and they are not digitized. Also SAV coverage has changed in that area since then.
Anne

Erin Hague wrote:

>Anne:
>In responding to Fritz's comments, have you digitized the SAV areas
>that were ground-truthed in the vicinity of North Topsail Beach and New
>River Inlet? We are interested in including these areas as part of the
>baseline data set (please refer to additional emails below).
>Thanks
>
>Erin A. Hague
>Environmental Planner/Marine Biologist
>Coastal Planning & Engineering, Inc.
>2481 NW Boca Raton Blvd.
>Boca Raton, FL 33431
>(Ph) 561-391-8102 Ext.132
>(Fax) 561-391-9116
>(Cell) 561-239-3701
>Email: ehague@coastalplanning.net
>Webpage: http:\\www.coastalplanning.net
>
>-----Original Message-----
>From: Fritz Rohde [mailto:Fritz.Rohde@ncmail.net]
>Sent: Monday, July 25, 2005 2:10 PM
>To: Erin Hague
>Cc: Anne Deaton
>Subject: Re: Recent SAV survey
>
>Hi -

>
>The flight was from Wrightsville Beach to almost New River Inlet and by
>no means comprehensive. Took a bunch of photos and marked areas on maps
>to ground truth. which we did some of. Nothing has been digitized at
>this point and I dont if and when it will. It was a preliminary flight
>by Anne and myself to determine if there were SAVs outside of the known
>areas. But she is the GIS wiz so better can answer that question.
>
>Fritz
>
>Erin Hague wrote:
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>
>>Fritz:
>>
>>In the July 7, 2005 letter received from NMFS to USACE, NMFS indicated
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>>that the DMF had conducted a recent aerial survey of coastal waters
>>between Bogue Inlet and Wilmington for mapping SAV. Are the SAV
>>results of this survey available? If so, can the areas be provided as
>>
>>
>
>
>
>>.shp files for us to include in the North Topsail Beach project GIS?
>>We would also need the dates of the survey and a contact name to
>>include in the metadata.
>>
>>Thank you for your assistance.
>>
>>
>>
>>**Erin A. Hague**
>>
>>Environmental Planner/Marine Biologist
>>
>>**Coastal Planning & Engineering, Inc.**

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>>Webpage: http:\\www.coastalplanning.net
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From: David_Rabon@fws.gov
Sent: Tuesday, January 03, 2006 8:28 AM
To: Erin Hague
Cc: Susan Cameron (E-mail); Craig Kruempel; Sugg, Mickey T SAW; Shelia Cox (E-mail); Tom Jarrett
Subject: Re: FW: waterbird monitoring for N. Topsail Beach

Follow Up Flag: Follow up
Flag Status: Flagged

Categories: Red Category

Hi Erin:

I have spoken briefly with Sue about this project and I concur with her statements. I think a year of pre-project monitoring is a minimum and the overall plan should be similar to the Bogue Banks plan. At least the Bogue Banks plan should be used as a guide for developing the N. Topsail Beach plan.

I haven't seen the proposed project plan yet, but I would be happy to weigh in on the development of a bird monitoring plan with more detail as you continue to develop the project. I don't have any obvious concerns as of now, but I do strongly suggest that we develop a monitoring plan that will accurately monitor any effects from the project.

David

David R. Rabon, Jr.
U.S. Fish and Wildlife Service
Post Office Box 33726
Raleigh, North Carolina 27636-3726

telephone: 919.856.4520 x 16
telefax: 919.856.4556
email: david_rabon@fws.gov

"Erin Hague"
<Ehague@coastalplanning.net> To "David Rabon \(E-mail 2\)"

12/23/2005 11:12 AM <david_rabon@fws.gov>

cc

"Sugg, Mickey T SAW" <Mickey.T.Sugg@saw02.usace.army.mil>, "Susan Cameron \(E-mail\)" <camerons@coastalnet.com>, "Shelia Cox \(E-mail\)" <sheliac@north-topsail-beach.org>, "Tom Jarrett" <Tjarrett@coastalplanning.net>, "Craig Kruempel" <Ckruempel@coastalplanning.net>

Subject

FW: waterbird monitoring for N. Topsail Beach

David:
We are starting to develop the monitoring plans for the North Topsail Beach Shoreline Protection Project, and are requesting your input for the development of the pre-construction bird monitoring plan. Based on preliminary conversations with Sue Cameron, she would like to see the Bogue Inlet Bird Monitoring Plan used as a guide for developing the North Topsail Beach plan.

Do you have any initial concerns or requests for pre-construction bird monitoring? Please let me know if you need a project description.

Please refer to emails below.
Thank you

Erin A. Hague
Environmental Planner/Marine Biologist
Coastal Planning & Engineering, Inc.
-----Original Message-----

From: Sugg, Mickey T SAW [mailto:Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Thursday, December 15, 2005 10:34 AM
To: Erin Hague; Craig Kruempel; Shelia Cox (E-mail); Loraine Carbone (E-mail); Tom Jarrett
Subject: FW: waterbird monitoring for N. Topsail Beach

Morning-
Need to start thinking about some type of pre-monitoring plan for the birds. It's my position not to go longer than a year and to confine it within the inlet (no ocean shoreline monitoring). I would expect that the monitoring would be on a smaller scale than that of Bogue and not as complicated, hopefully resulting in a lower cost. I haven't spoken with David Rabon (FWS)
regarding any pre-monitoring for this project, but I expect that he would require this.
-Mickey

-----Original Message-----
From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Wednesday, December 14, 2005 4:40 PM
To: Sugg, Mickey T SAW
Cc: 'Steven H. Everhart'; Allen, David H.; howard_hall@fws.gov
Subject: waterbird monitoring for N. Topsail Beach

Hi Mickey,

I would like to request some bird monitoring in association with the North Topsail Beach project. We should be thinking about a minimum of one year pre project monitoring along with some post project monitoring. This will be necessary to evaluate impacts of a one time channel relocation event and to have some information with which to compare future changes after multiple events. For pre project monitoring I would suggest a protocol similar to the Bogue Inlet work. Surveys should be conducted within the inlet complex and should cover both high and low tide cycles. We'll have to determine the duration of post project monitoring. One question I have is how long will it take for the inlet shorelines to reconfigure after the initial channel relocation? Does CP&E have an estimate for this yet? We'll be requesting other environmental commitments for waterbirds depending on which project alternative is selected, but we can discuss these later in the process.
Thanks and enjoy your holidays.

Sue Cameron
North Carolina Wildlife Resources Commission Waterbird Biologist
253 White Oak Bluff Road
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

From: Dawn York
Sent: Monday, July 02, 2007 4:38 PM
To: 'brewersa@lejeune.usmc.mil'
Cc: Erin Hague; Adrienne Carter
Subject: North Topsail Beach Shoreline Protection Project

Hello Mr. Brewer, the Town of North Topsail Beach is currently in the process of developing the Draft EIS for the non-federal shoreline protection project. The Preliminary Draft EIS (November 2006) included the sensitive species information (1999-2004) you had provided in a letter, dated 15 April 2005, and associated enclosures. However, the Draft EIS will need to be updated with existing 2005 and 2006 data for seabeach amaranth occurrences, piping plover sightings/nests, and sea turtle nests on Onslow Beach.

Please let me know if this information can be provided in a timely fashion as the delivery date for the Draft EIS is early August. I do apologize for not allowing more time to gather this information. I put a call into Craig Ten Brink as well.

We appreciate your time and look forward to hearing from you,
Dawn

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Dawn York
Sent: Friday, August 17, 2007 3:51 PM
To: Adrienne Carter
Cc: Erin Hague
Subject: FW: North Topsail - dune management info

Adrienne – here is additional information for the dune section in 4.0.

Please let me know if you have any additional questions.
Thanks.

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Steve Mercer [mailto:smercer@coastaltransplants.com]
Sent: Friday, August 17, 2007 3:52 PM
To: Dawn York
Subject: RE: North Topsail

Dawn,

The town of North Topsail and residents have spent approximately $244,000.00 on vegetation over the past 7 years. The amount spent on sand fence is approximately $225,000.00.

I am not currently contracted for vegetation management or maintenance planning for the frontal dune. However, I am currently planting the '07-'08 fiscal year budget for $35,000.00 worth of cost share plants.

In the past the entire shoreline was planted when planting was performed by the municipality. When the plants were sold to the residents they only went to the buyers' residence.

The 10% shoreline vegetation was a number calculated by arriving at a total dune square footage vegetated from top of frontal dune to toe (TFDT). That number was calculated by arriving at a TFDT and subtracting the area non-vegetated and converting to percentage. This calculation was performed October 2006 and has been modified by two erosion events in the early spring 2007 and the addition of approximately 50,000 plants this summer and the continued growth of existing vegetation.

> -----Original Message-----
> **From:** Dawn York [mailto:Dyork@coastalplanning.net]
> **Sent:** Monday, August 06, 2007 11:56 AM
> **To:** Steve Mercer
> **Cc:** Adrienne Carter
> **Subject:** RE: North Topsail
>
> Hi Steve – I had called earlier to follow up on our conversation from last Thursday. Based on the

information you provided below, I would also like to request cost amounts the Town of NTB and its residents have spent on dune stabilization. An approximate amount over the last 7 years is fine.
Does the Town have a current management plan for dune replanting that you are contracted? If so, what is the plan?
Also, are there specific locations of dune stabilization/plantings that have occurred versus along the entire shoreline? For example, is there a specific section of beach you have focused on?
One last item – you had mentioned on your last beach survey that approximately 10% of the shoreline was vegetated, can you confirm this?

Thank you for your time,
Dawn

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Steve Mercer [mailto:smercer@coastaltransplants.com]
Sent: Wednesday, August 01, 2007 9:19 AM
To: Dawn York
Subject: North Topsail

Ms. York,

Based on our company records and on-site inspections I have conducted at North Topsail Beach, the following information can be used for your information.

Plants installed since the year 2000 ---- 610,000

Linear feet of sand fence installed since year 2000 ----- 75,000
This is slightly harder to pinpoint since there are several suppliers of fence.

Thank you for your patience in this request. If you need further information please call 431-9814.

Steve Mercer

From: Dawn York
Sent: Friday, August 03, 2007 3:57 PM
To: 'Deborah Hill'
Cc: Angela Belden; Heather Vollmer
Subject: FW: threatened structures in NTB

Attachments: 2314 nri.jpg; image001.jpg; image003.jpg
Hello Deb – based on the attached image you sent to me yesterday, can you tell me where the "imminently threatened" line was delineated from? Since there is no vegetation line – can the high water line be used in this case?

Thanks, Dawn

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
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From: Deborah Hill [mailto:dhill@north-topsail-beach.org]
Sent: Thursday, August 02, 2007 12:48 PM
To: Dawn York
Subject: FW: threatened structures in NTB

From: Dawn York [mailto:Dyork@coastalplanning.net]
Sent: Thursday, August 02, 2007 10:00 AM
To: Deborah Hill
Cc: Shelia Cox; Erin Hague
Subject: RE: threatened structures in NTB

Good morning Deborah, CPE is in the process of creating a graphic that depicts the imminently threatened homes on North Topsail Beach to include in the Draft EIS. I have a few questions and would like to meet with you to review the graphic. I will be in NTB tonight for the BOA meeting. Can we meet prior to the meeting, perhaps around 4pm?

I am interested in calculating the distance between the structure and the dune escarpment or high water line – whichever comes first in some cases. Do you have this information from your field inventory? Also, there are some structures, in which an address was not listed however, it is apparent these homes are either threatened or condemned. Do you have a list of those structures deemed condemned?

Thank you and look forward to hearing from you,
Dawn

Dawn M. York, M.S.
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Wilmington, NC 28412
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From: Deborah Hill [mailto:dhill@north-topsail-beach.org]
Sent: Thursday, July 19, 2007 3:00 PM
To: Dawn York
Cc: 'Shelia Cox'
Subject: RE: threatened structures in NTB

1. Can you confirm that all these structures fall under the State Standard Use Rule of being imminently threatened – within 20 feet of the escarpment?

Unless I made a mistake, yes, at the time inventory was conducted, I verified that structures were within 20 feet of the escarpment in accordance with guidance provided by Jon Giles, Field Rep, Division of Coastal Management/ Wilmington District.

2. Within the list, there is a property listed twice – 2302 NRI Road, however both listings are under different owners. Can you verify this?

The structure is a duplex with two separate owners.

Map & Data	Tax Parcel ID	NC PIN Number	Tax Record Number	Owner's Name	Plat Book and Page	Deed Book and Page	Date Deed Recorded	Deed Stamp Amount	Tax Acreage Charged	Abstract Tax Value	Current Tax Value	Land Value	Structure Value	Other Building Value	Improvement Code	Heated Living Area Sq Ft	Property Address	Township Code	City Code	Neighborhood Code	Property Description
SHOW	778C-19	429812759964	18021	EWALT JAMES R & DEBRA A	20-015	2157755	12/2/2003	136000	0.14	100	100	100	0	0	D	1680	2302 NEW RIVER INLET RD	114	26	370	TPSL SH 2 BA L53A
SHOW	778C-19.1	429812759932	34794	UBERSEDER LANCE J & OTHERS	20-015	2577391	12/27/2005	0	0.14	100	100	100	0	0	D	1680	2302 NEW RIVER INLET RD	114	26	370	TPSL SH 2 BA L53B

3. Are all of these properties residential – house, condo, etc.?

Yes.

4. Do you have property/structure values for each of the listed structures? I can use the county property tax map if this information is not easily attainable.

No, but Sheila may.

Deborah J. Hill, MPA

Planning & Zoning Administrator

2008 Loggerhead Ct, **North Topsail Beach** NC 28460
910.328.1349/1.800.687-7092/Fax: 910.328-4508

NTB Town Code Chapter 7 Planning & Zoning

From: Dawn York [mailto:Dyork@coastalplanning.net]
Sent: Thursday, July 19, 2007 2:28 PM
To: dhill@north-topsail-beach.org
Cc: Shelia Cox
Subject: threatened structures in NTB

Good afternoon Deb, I was provided the attached pdf from Sheila Cox, which lists the most recent (June 2007) structures in NTB that are considered threatened. I have a couple of brief questions regarding the list:

5. Can you confirm that all these structures fall under the State Standard Use Rule of being imminently threatened – within 20 feet of the escarpment?
6. Within the list, there is a property listed twice – 2302 NRI Road, however both listings are under different owners. Can you verify this?
7. Are all of these properties residential – house, condo, etc.?
8. Do you have property/structure values for each of the listed structures? I can use the county property tax map if this information is not easily attainable.

I would like to include this important information into the DEIS document for the non-Federal beach nourishment project. Please let me know if you have any questions,
Dawn

Dawn M. York, M.S.
Coastal Biologist

CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Dick Macartney [beachmonger@yahoo.com]
Sent: Monday, June 11, 2007 11:58 AM
To: Sugg, Mickey T SAW; Alderman Richard Farley; Alderman Richard Peters; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brad Smith; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle_Duval@environmentaldefense.org; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas.A.Blount@saw02.usace.army.mil; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: ecobank@earthlink.net; Tom Jarrett; Craig Kruempel; Erin Hague; Dawn York
Subject: Re: FW: NTB Draft PDT meeting minutes
Mickey,

I am sorry I missed the meeting. I want everyone to know that our town has continued to work on finding funding alternatives for a VERY MUCH NEEDED beach nourishment project.

The status on funding is very encouraging in fact I told the board last Thursday night that we could afford to do the first phase of the project i.e. repositioning the New River Inlet and depositing the sand down the beach 14,000 feet as soon as permits are available. I was under the impression that the permits could be in place by this fall but Mr. Jarrett says not. When we agreed to delay the project to salve the election results we were told that we had a six month window where it would not affect the permit process. So I personally am very disappointed that we cannot consider getting phase one completed this winter.

The game plan is to raise about $3MM per year from taxes, county grants, and state funds and do the entire project in four phases with the fourth phase being the federal project is it is still on track but if not, the southern section It will take 6-10 years to complete with this pace of funding but it seems to be the best scenario given the difficulty of getting a bond issue passed.

So as chairman of the town's beach nourishment committee and with the apparent backing of the board of aldermen for this phased pay as we go paln I urge the PDT to move with deliberate speed in our permitting process.

Please let me know where the impediments are and if the ball is in C P & E's court we will emphasize the importance to them.

After the last storms over 30 structures including the 8 buildings of the Topsail Reef aro e immenently threatened so there is a sense of urgency.

Thank you all for what you can do to help us....

"Sugg, Mickey T SAW" <Mickey.T.Sugg@saw02.usace.army.mil> wrote:

> Good morning-
> Attached are the minutes for the April PDT meeting. Please review and inform me of any corrections or clarifications.
> Thanks,
> Mickey
> (910) 251-4811
>
> ---
>
> **From:** Dawn York [mailto:Dyork@coastalplanning.net]
> **Sent:** Friday, June 01, 2007 9:05 AM
> **To:** Sugg, Mickey T SAW
> **Cc:** Craig Kruempel; Tom Jarrett
> **Subject:** NTB Draft PDT meeting minutes
>
> Good morning Mickey – I hope you are doing well.
>
> I have attached the North Topsail Beach April 25 Draft PDT meeting minutes. Please review at your earliest convenience and let me know if you have any questions.
>
> Thanks and have a great weekend,
> Dawn
>
> *Dawn M. York*
> CPE Marine Science & Biological Research Dept.
> 330 Shipyard Blvd.
> Wilmington, NC 28412
> (O & F) 910.791.9494
> www.coastalplanning.net

Dick Macartney
North Topsail Beach NC

land line 910-328-3059
Cell phone 910-548-4879
fax 910-328-2926 (call first)

From: Don Field [Don.Field@noaa.gov]
Sent: Thursday, November 30, 2006 8:46 AM
To: Erin Hague
Cc: Ron Sechler
Subject: Re: FW: North Topsail Beach Aerials
Attachments: topsail.ppt

Erin - I wasn't paying close attention to emails and attachments and thought these were both the same project - I did respond to Adrienne about the Rich Inlet project.
I have attached a power point presentation and annotated it similar to what I sent to Adrienne. There are some small areas of potential seagrass on this photo. BUT - as I said to Adrienne:
"I have pointed to POTENTIAL seagrass
areas with yellow arrows. Having never worked in that area and with jpgs that are by definition degraded, I would never say I am sure these areas are seagrass - Rather these are areas that if I were interpreting these images I would consider my first preferences to visit in the field."
Hope this helps.
Let me know if you have questions,
Don

Erin Hague wrote:
> Ron:
> I believe that those photos were for the Figure 8 - Rich Inlet
> project, not North Topsail Beach. Please advise.
> Thanks
> Erin
>
> Erin A. Hague
> Sr. Marine Scientist
> CPE Marine Science & Biological Research Dept.
> 2481 NW Boca Raton Blvd.
> Boca Raton, FL 33433
> (P) 561.391.8102
> (F) 561.391.9116
> (C) 561.239.3701
> www.coastalplanning.net
> -----Original Message-----
> From: Ron Sechler [mailto:ron.sechler@noaa.gov]
> Sent: Wednesday, November 29, 2006 8:40 AM
> To: Erin Hague

> Subject: Re: FW: North Topsail Beach Aerials
>
> Erin,
> Don sent annotated photos showing potential SAV habitat to Adrienne
> Carter on about 11.20.06.
> Ron
>
> Erin Hague wrote:
>
>> Ron/Don:
>>
>> I believe that you may have provided some feedback on the request
>> below regarding presence or absence of SAV in the vicinity of New
>> River Inlet, but am unable to locate these comments in my notes. Can
>> you please advise on the request below and indicate the area in
>>
> question?
>
>> Thank you for your assistance.
>>
>> Erin
>>
>>
>>
>> Erin A. Hague
>>
>> Sr. Marine Scientist
>>
>> CPE Marine Science & Biological Research Dept.
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>> 2481 NW Boca Raton Blvd.
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>> (C) 561.239.3701
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>>
> ----------
> --
>
>> *From:* Erin Hague
>> *Sent:* Monday, October 23, 2006 8:44 AM
>> *To:* ron.sechler@noaa.gov
>> *Subject:* North Topsail Beach Aerials
>>
>>
>>
>> Ron:
>>
>> As discussed during the October 3^rd meeting for North Topsail Beach,
>> the aerials in the vicinity of New River Inlet (Camp Lejeune side)
>> have been merged and cropped. Please forward on to the technical
>> reviewers for analysis of any submerged aquatic vegetation.
>>
>> Let me know if you have any questions. Also, can you please provide
>> an update on your review of the Draft EFH?
>>
>> Thanks
>>
>> Erin
>>
>>
>>
>>
>>
>> Erin A. Hague
>>
>> Sr. Marine Scientist
>>
>> CPE Marine Science & Biological Research Dept.
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****
Don Field
Applied Ecology and Restoration Research NOAA Center for Coastal Fisheries and Habitat Research
101 Pivers Island Road
Beaufort, NC 28516

Phone: 252-728-8770
FAX: 252-728-8784
Email: don.field@noaa.gov

From: Doug Huggett [Doug.Huggett@ncmail.net]
Sent: Friday, August 10, 2007 9:11 AM
To: Tom Jarrett
Cc: steve.everhart@ncwildlife.org;
Douglas.Piatkowski@saw02.usace.army.mil;
Michael.A.Young@saw02.usace.army.mil;
Thomas.A.Blount@saw02.usace.army.mil; Dawn York; Ken Willson; Thomas
Campbell
Subject: Re: (no subject)

Tom

I never meant to imply that CPE had improperly characterized the depth of closure. I think the confusion lies more with my lack of adequate understanding of some of these processes. And as you point out, it is clear that the proper characterization of the depth of closure was presented at one or more PDT meetings. Therefore, I'm
afraid the blame lies with me for not fully understanding and
remembering all of these technical issues. With all of this in mind,
please accept my apology if my statements yesterday caused any complications.

Thanks

Doug

Jtomjarrett@aol.com wrote:

> I understand that during yesterday's meeting on hard bottoms, there
> was some misunderstanding regarding the way CPE has characterized the
> depth of closure. CPE has never implied that there was no sediment
> movement beyond the depth of closure only that the degree of sediment
> movement was not significant from a coastal engineering and coastal
> processes perspective.
>
> The following statement by Tom Campbell was extracted from the April
> 22, 2006 PDT meeting minutes:
>
> *"Campbell* said Dr. Dean's concept relies on the depth of closure
> (h^*), the depth below which changes in the beach profile over long
> periods of time are not significant from a coastal engineering
> perspective."
>
>
>
> CPE takes pride in its coastal engineering expertise and uses industry
> standards in all of its endeavors, most notably the Corps of Engineers
> Coastal Engineering Manuel (CEM). Following are some of the
> definitions of closure depth provided in the CEM:
>
>
>
> From: Coastal Engineering Manual (*CEM), EM 1110-2-1100, Appendix A -
> Glossary of Coastal Terminology***
>
> *CLOSURE DEPTH *
>
> The water depth beyond which repetitive profile or topographic surveys
> (collected over several years) do not detect vertical sea bed changes,
> generally considered the seaward limit of littoral transport. The
> depth can be determined from repeated cross-shore profile surveys or
> estimated using formulas based on wave statistics. Note that this does
> not imply the lack of sediment motion beyond this depth.
>
> From *CEM EM 1110-2-1100 (Part III) – Cross-Shore Sediment Transport
> Processes*
>
> *Page III-3-19. "The long-term and short-term limits of cross-shore

> sediment transport are important in engineering considerations of
> profile response. During short-term erosional events, elevated water
> levels and high waves are usually present and the seaward limit of
> interest is that to which significant quantities of sand-sized
> sediments are transported and deposited. It is important to note that
> sediment particles are in motion to considerably greater depths than
> those to which significant profile readjustments occurs."*
>
> *Page III-3-20. "The seaward limit of effective profile fluctuation
> over long-term (seasonal or multi-year) time scales is a useful
> engineering concept and is referred to as the "closure depth," denoted
> by h_c . *
>
> *I know that during our discussion of beach fill design, closure
> depth, and impacts on near shore hard bottoms, I stated that sediment
> movement occurred beyond the theoretical depth of closure but the
> degree to which sediment moved was not significant from an engineering
> perspective.*
>
> *I hope this clarifies any misunderstanding that some may have had
> regarding depth of closure as used by CPE and other coastal
> engineers.*
>
> *Tom*
>
> **
>
>
>
>
>
>
> ---
> -- Get a sneak peek of the all-new AOL.com
> <http://discover.aol.com/memed/aolcom30tour/?ncid=AOLAOF00020000000982>.

From: Erin Hague
Sent: Wednesday, September 06, 2006 12:10 PM
To: 'Michelle Duval'; Sugg, Mickey T SAW
Cc: Fritz Rohde; doug.huggett@ncmail.net; Craig Kruempel; Rick Spadoni
Subject: RE: Hardbottom Buffer Analysis and next meeting

Michelle:
I apologize for the delay in getting back to you. Example pre and post turbidity monitoring results for Florida projects will be included in the supplemental buffer zone analysis to be provided the week of September 18th.

With regards to the North Boca Raton nourishment project, the City of Boca Raton requested a waiver from Rule 62-4.244(5)(c), F.A.C., which establishes the maximum mixing zone allowable for open ocean discharges at no greater than 150 meters in radius from the point of discharge into State waters. The variance application requests that the mixing zone extend 300 meters offshore and 2,000 meters down current of the discharge point where the material enters the ocean.

The mixing zone requested by the City does not extend over offshore reefs or other habitats that may be sensitive to turbidity. It provides only for a temporary expansion of the mixing zone in the nearshore zone.

This requested mixing zone variance is less than the FDEP approved mixing zone variance for the 1998 North Boca Raton Beach Renourishment Project. Long-term environmental monitoring of hardbottom habitats offshore of the project area clearly demonstrated that no environmental impacts occurred as the result of temporary turbidity created from the 1998 beach nourishment project, which included a mixing zone extending 3050 meters down current. The 1998 monitoring data showed that the turbidity levels reached a maximum of 6.5 NTUs above background at a distance of 2,000 meters down current from the point of discharge onto the beach. Therefore, exceedence of the water quality standard is not expected for the 2007 project. If the water quality standard were to be exceeded, however, the contractor would be required to cease construction and take action to bring the construction process into compliance.

Please let me know if you have any questions.
-Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
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Boca Raton, FL 33433
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www.coastalplanning.net

From: Michelle Duval [mailto:mduval@environmentaldefense.org]
Sent: Thursday, August 17, 2006 4:46 PM
To: Sugg, Mickey T SAW
Cc: Erin Hague; Fritz Rohde; doug.huggett@ncmail.net
Subject: RE: Hardbottom Buffer Analysis and next meeting

Mickey,

I'm sorry I wasn't able to make the last meeting; the rescheduling prevented me from being there, but I hope to make the next one.

I do have a question with regard to some of the information contained in the buffer analysis, specifically the 29NTU turbidity standard for nourishment projects in FL. Do you have some pre- and post-project data to support the sentence on page 9 (second full paragraph) which states that the buffer and the turbidity standard have been effective in protecting sensitive habitats? I've come across an article which mentioned that CPE is requesting a variance from the turbidity standard for a project in the north part of Boca Raton, and I'm curious what the reason is for the variance request. I know that many of FL's reefs are much closer to shore and it sounds like the breadth of the plume could impact some of those habitats.

Many thanks for any info you can provide,

michelle

From: Sugg, Mickey T SAW [mailto:Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Friday, August 11, 2006 4:11 PM
To: Alderman Richard Farley; Alderman Richard Peters ; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; Dick MaCartney; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle Duval; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas Blount; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: Jtomjarrett@aol.com; Ehague@coastalplanning.net; sheliac@north-topsail-beach.org; lorainec@north-topsail-beach.org; brads@north-topsail.org
Subject: Hardbottom Buffer Analysis and next meeting

Good afternoon,
As mentioned in the July meeting, please review the July 2006 buffer analysis (send by e-mail dated July 17th) and provide comments by next Thursday. CPE is modifying the analysis based on the discussions during the meeting, but I am requesting additional feedback since most didn't have time to review prior to the meeting. Also, pls set aside 26,27, and 28th as the next meeting date. I will confirm which date in the next week or so. Thanks and have a great weekend.
-Mickey

Corps of Engineers
PO Box 1890
Wilmington, NC 28402
Office, (910) 251-4811
Fax, (910) 251-4025

From: Erin Hague
Sent: Tuesday, October 31, 2006 2:19 PM
To: Susan Cameron
Cc: Sugg, Mickey T SAW; lorainec@north-topsail-beach.org; Brad Smith; Shelia Cox; dawn york; scooper@czr-inc.com
Subject: RE: North Topsail Beach - Bird Monitoring Plan (Rev)

Sue:
Thanks for clarifying. The language on page one has been changed as advised.

Based on your latest request, we will request two cost estimates from CZR. One estimate will include monitoring from December through February on a monthly basis with alternating tide cycles each month, as previously agreed. The second cost will be for two monitoring events during these months to collect data for both tides. Since the Town will not be receiving any assistance on these efforts, I would expect that the costs will determine what the Town can support.

The revised plan will be included in the Preliminary Draft EIS.

Thanks
Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33433
(P) 561.391.8102
(F) 561.391.9116
(C) 561.239.3701
www.coastalplanning.net

From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Tuesday, October 31, 2006 8:23 AM
To: Erin Hague
Subject: RE: North Topsail Beach - Bird Monitoring Plan (Rev)

Hi Erin,
A couple of the corrections I made in the first draft weren't amended in this draft (see attached). One additional suggestion…if possible, it would be nice if surveys could be conducted twice per month in the winter so we could get in a high and low tide survey each month. We are currently doing this on Bogue. Otherwise it looks good. Thanks.

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist

253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Tuesday, October 24, 2006 11:34 AM
To: Sugg, Mickey T SAW; Alderman Richard Farley; Alderman Richard Peters ; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; Dick MaCartney; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle_Duval@environmentaldefense.org; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL.; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas Blount; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: Tom Jarrett; lorainec@north-topsail-beach.org; sheliac@north-topsail-beach.org; D York; scooper@czr-inc.com
Subject: North Topsail Beach - Bird Monitoring Plan (Rev)

Good Afternoon:
The Bird Monitoring Plan has been revised based on comments received during the October 3, 2006 PDT meeting and through email correspondence. Revisions to the project location map will include the final borrow area, which is expected to be available at the time of the release of the PDEIS. Please let me know if you have any additional questions regarding this plan.
-Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33433
(P) 561.391.8102
(F) 561.391.9116
(C) 561.239.3701
www.coastalplanning.net

Beverly Eaves Perdue, Governor

Dee Freeman, Secretary
North Carolina Department of Environment and Natural Resources

Coleen H. Sullins, P.E. Director
Division of Water Quality

January 13, 2009

Mr. Donald Martin
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460

Subject: **EXEMPTION**
Stormwater Project No. SW8 081117
North Topsail Beach Shoreline Protection Project
Pender County

Dear Mr. Martin:

The Wilmington Regional Office of the Division of Water Quality received a copy of the CAMA Major Permit Application for the subject project. Staff review of the plans and specifications has determined that the development activities proposed at this time will not pose a threat to surface water quality from stormwater runoff. The Director has determined that projects that are reviewed and approved by the Division as not posing a water quality threat from stormwater runoff should not be subject to the stormwater management permitting requirements of 15A NCAC 2H.1000, the stormwater rules. By copy of this letter, we are informing you that this project will not require a stormwater management permit.

If the subject project disturbs one acre or more and has a point source discharge of stormwater runoff, then it is also subject to the National Pollutant Discharge Elimination System (NPDES) stormwater discharge requirements. You are required to have an NPDES permit for stormwater discharge from projects meeting these criteria. Please note that the stormwater rules require the Division to permit the *common plan of development*, therefore, any future development on the property, regardless of whether a CAMA Major permit is also required, will require a Stormwater Management Permit application and permit issuance from the Division of Water Quality prior to any construction.

If you have any questions or need additional information concerning this matter, please do not hesitate to call me at (910) 796-7215.

Sincerely,

Georgette Scott
Stormwater Supervisor

GS/arl: S:\WQS\STORMWATER\EXEMPT\2008\081117.jan09

cc: James Jarrett; Coastal Planning & Engineering of NC, Inc.
Pender County Building Inspections
Doug Huggett, DCM
Kelly Johnson
Wilmington Regional Office
Central Files

From: Harry LeGrand [harry.legrand@ncmail.net]
Sent: Wednesday, August 22, 2007 8:03 AM
To: Adrienne Carter
Subject: Re: Data on Terrapins in the New River Inlet / North Topsail Beach / Onslow Beach Area

We do keep records on Diamondback Terrapin, though I can't say we are up-to-date. You may want to check with the N.C. Museum of Natural Sciences staff -- Alvin Braswell <alvin.braswell@ncmail.net> or Jeff Beane <jeff.beane@ncmail.net>.

We can send you our records in a pdf file, but I'll wait for your response. Maybe the museum can send their records. I haven't heard of any terrapin studies in that area.

Harry LeGrand

Adrienne Carter wrote:
> Harry
>
> We are trying to locate data on the presence of Carolina diamondback
> terrapins in the above area. Is the North Carolina Natural Heritage
> Program aware of any on-going studies on Carolina diamondback
> terrapins in the area or could you possibly direct me to someone who
> can help me with this request?
>
> Sincerely
>
> Adrienne Carter
>
>
>
>
>
> *Adrienne Carter
> **Marine Scientist
> *CPE Marine Science & Biological Research
> 2481 NW Boca Raton Blvd.
> Boca Raton, FL 33431
> (P) 561.391.8102
> (F) 561.391.9116
> www.coastalplanning.net <http://www.coastalplanning.net/>
> acarter@coastalplanning.net <mailto:adelaney@coastalplanning.net>
>
>
>

--
Harry LeGrand
NC Natural Heritage Program
DENR Office of Conservation and Community Affairs
1601 MSC
Raleigh, NC 27699-1601
(919) 715-8697 (work)
e-mail: harry.legrand@ncmail.net

From: Howard_Hall@fws.gov
Sent: Wednesday, September 07, 2005 2:26 PM
To: Erin Hague
Cc: Tom Jarrett
Subject: Re: North Topsail Beach CBRS Boundaries

Erin,

Sorry I haven't responded sooner, but I wanted to check with our Regional CBRA Coordinator in Atlanta, Cynthia Bohn. I just spoke with Cynthia and she informed me that, as stated in her message given below, the digital, or coordinate, version of the CBRA maps are not yet available. She did tell me that the units in North Carolina had been digitized, but apparently they will not become official until authorized by Congress.

The only resource available to me in this office is the photographic atlas which contain a number of aerial photos with acetate overlays on which the CBRA lines are drawn. It is very difficult to convey this information over the phone or in a text message. I have seen that CBRA maps can be ordered from the FEMA Flood Map Store and I assume that this product is similar to the atlas.

For the immediate future, I can only recommend that Tom Jarrett could visit our office to review the maps in our atlas. I could also bring the two maps of Topsail Island to the next PDT meeting.

Let me know how you would like to proceed and I will do my best to help in your planning effort.

USFWS Web Page (September 7, 2005)----------

Map Modernization

The Coastal Barrier Resources Reauthorization Act of 2000 directed the U.S. Fish and Wildlife Service to complete a Digital Mapping Pilot Project that includes digitally produced draft maps for up to 75 John H. Chafee Coastal Barrier Resources System (CBRS) areas and a report to Congress that describes the feasibility and costs for completing digital maps for all CBRS areas. The Service is in the process of completing the pilot project.

Modernized CBRS maps created with digital technology are more accurate and precise than the existing suite of maps created more than 15 years ago. Modernized maps will increase government efficiency by placing CBRS information on the Internet, making it easy for customers and partners to access information quickly. Modernized maps will also help Federal, local, state and non-governmental partners target their conservation investments and initiatives, thereby bolstering the Coastal Barrier Resources Act’s effectiveness.

Message of July 27, 2005, from Cynthia Bohn (Southern Coastal Coordinator, USFWS,

Atlanta, GA)

"The Washington Office CBRA folks are currently working very hard to finish the pilot project to make digital maps for CBRA boundaries. This has been an ongoing effort for several years to make these boundaries digital and available to the public via the internet, and administer this program in a much more efficient and timely manner. As you can guess, this is a very tedious and time consuming process. The original maps, in addition to the historical information on the intent of where the line was placed, are used to determine the much more precise digital version/placement for each and every line on the maps. This is also the exact process that is used when we request a boundary determination for properties or projects within 500 feet of the line. Several of the states in the SE have been done for some time, BUT they have to receive congressional approval before they can be released. We are hopeful that will be coming as soon as all the maps are complete. After the maps are digital, we can provide a much better public service and outreach to address consistency issues and the intent of CBRA."

Howard

Howard F. Hall
U. S. Fish and Wildlife Service
Ecological Services
P. O. Box 33726
Raleigh, North Carolina 27636-3726

Ph: 919-856-4520, ext. 27
Fax: 919-856-4556
e-mail: howard_hall@fws.gov

"Erin Hague" <Ehague@coastalplanning.net> 09/06/2005 07:24 AM

To <howard_hall@fws.gov>
cc
Subject North Topsail Beach CBRS Boundaries

Howard:
Have you had a chance to look into the CBRS boundaries that we discussed during the July PDT meeting. I spoke to Tom Jarrett about the boundaries and he indicated that the limits were defined through interpretation of existing USFWS maps. Tom indicated that the USFWS is currently defining the coordinate locations for the CBRS boundaries. Do you have the coordinates for the CBRS limits around New River Inlet and North Topsail Beach available? Or do you know where I can get access to them? Thank you for your assistance.

Erin

Erin A. Hague
Environmental Planner/Marine Biologist
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
(Ph) 561-391-8102 Ext.132
(Fax) 561-391-9116
(Cell) 561-239-3701
Email: ehague@coastalplanning.net
Webpage: http:\\www.coastalplanning.net

From: Jeff Beane [jeff.beane@ncmail.net]
Sent: Thursday, August 23, 2007 3:06 PM
To: Adrienne Carter
Cc: Alvin Braswell
Subject: Re: Data on Terrapins in the New River Inlet / North Topsail Beach / Onslow Beach Area

We don't have any records from the New River Inlet itself that are more recent than 1995. However, we have several specimens from Alligator Bay near Sneads Ferry, which is close by. From that locality (Alligator Bay) we have:

- adult female (NCSM 45875) found dead in crab pot, 23 June 1996.
- shell pieces (NCSM 45871) from specimen found dead in marsh, 26 Sept. 1996.
- adult (NCSM 54430) found dead in crab pot, 29 June 1997.
- adult (NCSM 63501) caught in crab pot near mouth of Hill Creek (3.4 airmi. SSW Sneads Ferry), May 2002.

We also have a specimen (NCSM 60140) found dead at "Topsail I., North Topsail Beah near border with Surf City" on 31 Dec. 1996.
All these were collected by Gilbert S. Grant et al.
All our other records from that area are from prior to 1996.
Gil Grant lives in that area; has worked with terrapins some (excluder devices for crab pots, etc.), salvages them for us occasionally. I don't know whether he is doing anything in the way of a "study" at this point, but he would be one of the better persons to speak with about status or recent sightings of terrapins in that area.
gilbert_grant@usa.net
Work: 910-938-6313; home: 910-327-2904.

Adrienne Carter wrote:

> We are trying to locate data on the presence of Carolina diamondback terrapins in the above area. Is the North Carolina Museum of Natural Sciences aware of any on-going studies on Carolina diamondback terrapins in the area or could you possibly direct me to someone who can help me with this request?
> We received data from the North Carolina Natural Heritage Program, however their latest record was 1995.
> Sincerely
>
> **Adrienne Carter**
> **Marine Scientist**
> CPE Marine Science & Biological Research
> 2481 NW Boca Raton Blvd.
> Boca Raton, FL 33431
> (P) 561.391.8102
> (F) 561.391.9116
> www.coastalplanning.net
> acarter@coastalplanning.net

From: John Finnegan [john.finnegan@ncmail.net]
Sent: Tuesday, July 31, 2007 2:43 PM
To: Heather Vollmer
Subject: Re: SHNA AREAS in North Topsail Beach

Attachments: site_reports.pdf
Heather,

This email serves as written permission to you to use our SNHA shape data in your report graphics. I've also attached reports on the sites of interest to you.

Heather Vollmer wrote:

> Mr. Finnegan,
> I am looking for the latest SHNA areas in North Topsail Beach. I have specifically listed the areas that fall within the company's project area that I need below. This shapefile will be incorporated into graphics within the EIS being submitted to the state. According to the metadata associated with the SHNA shapefile we need your written permission prior to distribution or any hardcopy output.
> SHNA areas needed:
>
> 1. TURKEY CREEK MARSHES
> 2. CAMP LEJEUNE NEW RIVER INLET
> 3. NEW RIVER INLET BIRD NESTING ISLANDS
> 4. ALLIGATOR BAY MARSHES AND FORESTS
> 5. NORTH TOPSAIL BEACH MARITIME FOREST
> 6. NEW RIVER INLET OUTCROP
>
> Thank you for all of your help,
> *Heather M. Vollmer*
> *GIS Analyst*
> **CPE Geographics & Design**
> 2481 NW Boca Raton Boulevard
> Boca Raton, Florida 33431
> Ph. (561) 391-8102 Fax (561)391-9116
> http://www.coastalplanning.net

--
John Finnegan, Information Systems Manager
North Carolina Natural Heritage Program
Office of Conservation and Community Affairs
Department of Environment and Natural Resources
1601 MSC
Raleigh NC 27699-1601

Telephone: 919.715.8702
Email: john.finnegan@ncmail.net
Web page: http://www.ncnhp.org/

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
PO BOX 1890
WILMINGTON NC 28402-1890

CESAW-RG (1145b)

28 July 2005

MEMORANDUM FOR Commanding General, US Marine Corps Base, EMD/ECON (Attn: T. Barbee), PSC Box 20004, Camp Lejeune, North Carolina 28542-0004

SUBJECT: Action ID: 200500344, Invitation to be a Project Delivery Team member for the Non-Federal North Topsail Beach Shoreline Protection Project in Onslow County.

1. This letter serves to officially confirm you, a non-resource agency, as a member of the Project Delivery Team (PDT) for the North Topsail Beach Shoreline Protection Project in North Topsail Beach, Onslow County, North Carolina. The purpose of the PDT is to review a variety of issues involved in this proposal. These issues include, but not limited to, navigation, shoreline protection of private and public lands, alternative and scoping analysis, sand budget and compatibility, aquatic resource impacts, post and pre-project monitoring, threatened and endangered species, water quality and turbidity, and socio-economics. It is our intention to hold the meetings at least once a month, contingent on available information, and will focus on a few topics at each meeting.

2. If you plan to be a PDT member for this project, please respond to Mr. Mickey Sugg of my Regulatory staff by e-mail, mickey.t.sugg@saw02.usace.army.mil, or by conventional mail. In your response, please include your address, both mailing and e-mail, fax number, and phone number. If you have any questions, please contact Mr. Sugg, at (910) 251-4811.

JOHN E. PULLIAM, JR.
Colonel, EN
Commanding

CF:
Mr. Tom Cassell, Town Manager, Town of North Topsail Beach
Ms. Shelia Cox, Capital Projects Coordinator, Town of North Topsail Beach
Ms. Erin Hague, Coastal Planning & Engineering, Inc.

UNITED STATES MARINE CORPS
MARINE CORPS BASE
PSC Box 20004
CAMP LEJEUNE, NORTH CAROLINA 28542-0004

EH, file

RECEIVED
DEC 28 2007
BY: 460055

IN REPLY REFER TO:
5090.11.1
BEMD
DEC 11 2007

Ms. Erin A. Hague
Senior Marine Scientist
CPE Marine Science & Biological Research Deptartment
2481 NW Boca Raton Boulevard
Boca Raton, Florida 33433

Dear Ms. Hague:

In a letter dated October 30, 2006, Camp Lejeune granted access by Coastal Planning & Engineering Inc. (CPE) and CZR Inc. to Onslow Beach to monitor birds in support of the North Topsail Beach project to relocate the New River Inlet. According to CPE, the project timeline has been pushed back by one year and the monitoring area has been modified slightly.

The revised monitoring timeline is now November 2007 through November 2011. The modified bird monitoring area is depicted in area #3 on the enclosed map.

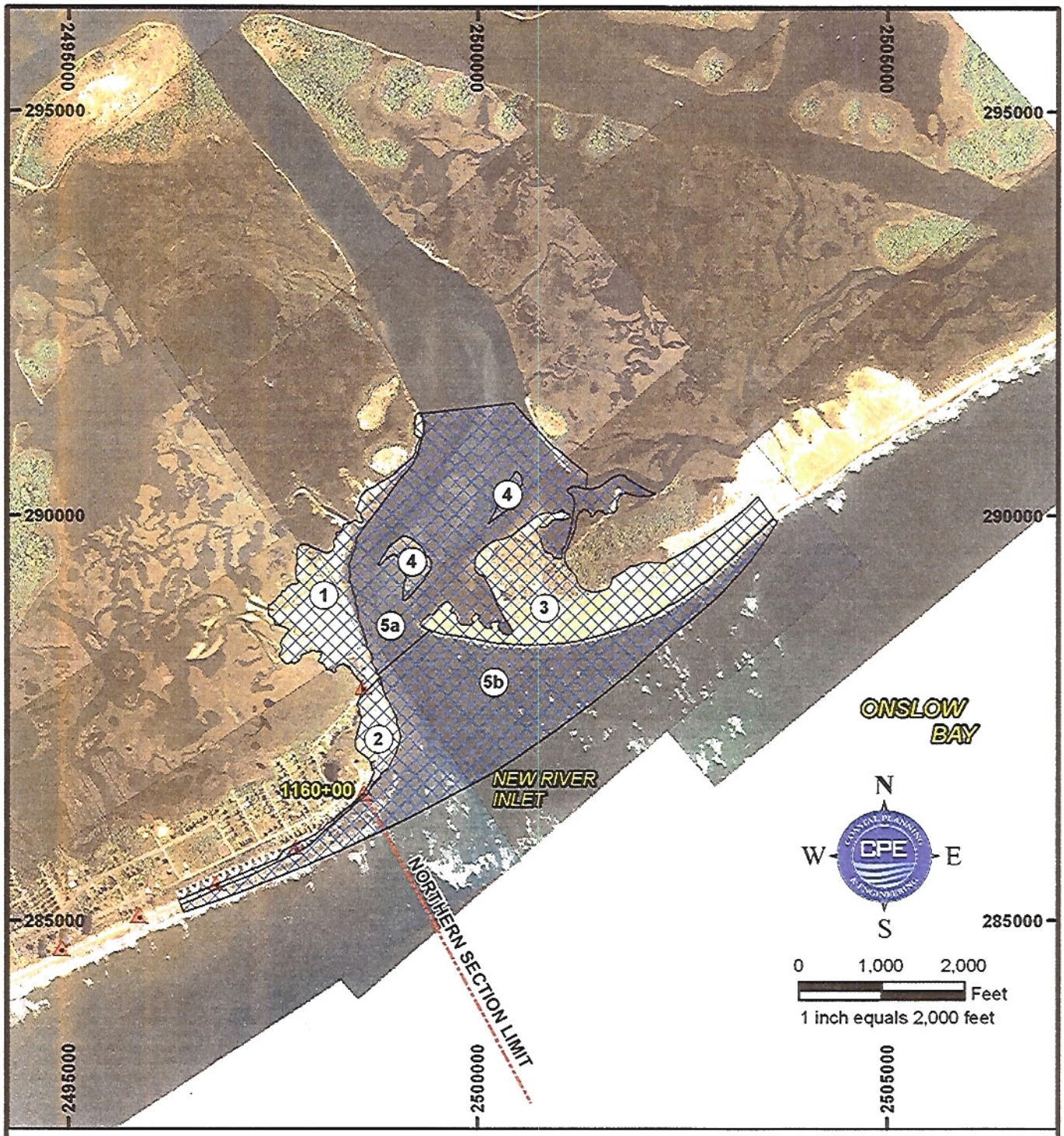
Surveyors must notify Range Control/Blackburn (910-451-3064) upon arrival and departure each day of surveying, and must carry a copy of this letter with them while on site. Surveyors must abide by all posted signs and regulations. Access will be by boat only. No vehicles will be used on Onslow Beach for this project.

As previously stated, results of surveys and copies of summary reports will be provided to Camp Lejeune upon completion of the project. In addition, Camp Lejeune would like copies of any interim results or reports as prepared during the life of the project.

For further information please contact Mr. Craig E. Ten Brink, Environmental Conservation Branch, Environmental Management Division, Installations and Environment Department at (910) 451-7228.

Sincerely,

JOHN R. TOWNSON
Director, Environmental Management
By direction of
the Commanding Officer



LEGEND

- BIRD MONITORING TRANSECT AREAS
- PROJECT LIMIT
- USACE BASELINE STATION

NOTES

1. COORDINATES SHOWN ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
2. DATE OF AERIAL PHOTOGRAPHY: APRIL 23, 2006, FLOWN BY THE ATLANTIC GROUP (TAG).

From: Lauren Floyd
Sent: Wednesday, September 20, 2006 2:25 PM
To: 'Matthew Godfrey'
Cc: Erin Hague
Subject: RE: FW: NTB turtles

Hi Matthew:
Thanks for that info, that's excellent. I actually have one more quick question for you:
is the TIVO/TBVO the same as the Karen Beasley Volunteer group that collects turtle data for the Turtle Project?
I just want to make sure I am crediting the right people for the data.
Thanks!
Lauren

Lauren S. Floyd
Marine Biologist
CPE Marine Science & Biological Research
2481 N.W. Boca Raton Boulevard
Boca Raton, FL 33431
Phone: (561) 391-8102
Fax: (561) 391-9116
lfloyd@coastalplanning.net

-----Original Message-----
From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
Sent: Wednesday, September 20, 2006 2:14 PM
To: Lauren Floyd
Subject: RE: FW: NTB turtles

Hi Lauren,

Natural fluctuation. The entire SE USA coast reported extremely low nest totals for 2003. The latest figures for 2006 show 90 nests on Topsail Island.

Matthew

At 01:24 PM 9/20/2006, you wrote:
>Hi Matthew:
>
>Quick question for you. Could you please provide the most probable
>explanation for the great variation between years in the number of
>sea turtle nests (from the data you provided us):
>
>2001: 36 nests
>2002: 88 nests
>2003: 28 nests
>2004: 52 nests
>2005: 40 nests
>
>Is this due to natural variation, anthropogenic causes, or to
>sampling error?
>
>Thanks very much,
>Lauren
>
>Lauren S. Floyd
>Marine Biologist
>CPE Marine Science & Biological Research
>2481 N.W. Boca Raton Boulevard
>Boca Raton, FL 33431

>Phone: (561) 391-8102
>Fax: (561) 391-9116
>lfloyd@coastalplanning.net
>
>-----Original Message-----
>From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
>Sent: Wednesday, September 13, 2006 10:14 AM
>To: Lauren Floyd
>Subject: Re: FW: NTB turtles
>
>
>Hi Lauren,
>
>Answers below
>
> >   * How do I interpret the following emergence data: If there is a
> > "?", "unknown", "hurricane", a blank space, or for 2002 there is no
> > column for emergence data at all. Could you explain if each one of
> > those means you couldn't relocate the nest, or definitely no
> > turtles hatched, or if it was washed away, etc.
>*** No value means no data. ? usually means that the nest lost or not
>observed during emergence (either due to lack of personnel or a storm
>washed away the nest markers). Hurricane usually means lost to
>erosion, although it could also the case that only the nest markers
>were lost while the eggs survived, but nobody could find the location
>again to monitor it for emergence.
>
>
>
> >   * In the activity column, could you clarify what F, FC, and N
> > mean? (I assume F and FC are false crawls, N nesting)
>
>*** Correct
>
> >   * What do the following acronyms mean: TIVO, TBVO?
>
>*** TIVO = Topsail Island Volunteer Organization; TBVO = Topsail
>Beach Volunteer Organization (they are identical)
>
> >   * Regarding the map of the "zones", it looks like zones 219-241
> > are all of Topsail Island, is that correct? Also, could you please
> > tell me which zones belong to only North Topsail Beach?
>*** I can't really tell you because we have never defined the mile
>markers by town lines. Also, the exact borders of the mile markers
>have always been fuzzy, due to erosion/accretion at the ends of
>islands. Sorry I can't be more help with this.
>
>Matthew
>
>
> >
> >I think that is all I need. If you could back to me asap, I'd
> >really appreciate it. If it's easier for you, please feel free to
> >give me a call at the work number below. Thanks again for your help.
> >
> >Cheers,
> >Lauren
> >
> >Lauren S. Floyd
> >Marine Biologist
> >CPE Marine Science & Biological Research
> >2481 N.W. Boca Raton Boulevard
> >Boca Raton, FL 33431

> >Phone: (561) 391-8102
> >Fax: (561) 391-9116
> ><mailto:lfloyd@coastalplanning.net>lfloyd@coastalplanning.net
> >
>
>
>==========
>Matthew Godfrey
>Sea Turtle Project
>North Carolina Wildlife Resources Commission
>1507 Ann St.
>Beaufort, NC 28516 USA
>tel: 252-728-1528
>email: godfreym@coastalnet.com
>

==========
Matthew Godfrey
Sea Turtle Project
North Carolina Wildlife Resources Commission
1507 Ann St.
Beaufort, NC 28516 USA
tel: 252-728-1528
email: godfreym@coastalnet.com

Town of North Topsail Beach

March 4, 2005

RECEIVED
MAR 23 2005
BY:_____

Commanding General
Marine Corps Base, Camp Lejeune
PSC 20004
Camp Lejeune, NC 28542-0004

Re: North Topsail Beach Nourishment and New River Inlet Management Plan Project Coordination

Dear Commanding General:

The Town of North Topsail Beach has contracted Coastal Planning & Engineering, Inc. (CPE) to address ocean shoreline erosion and inlet management issues at New River Inlet. The management issues include preventing or reducing damages due to 1) coastal storms, 2) long-term shoreline erosion, and 3) changes in New River Inlet. The project is in preliminary design and focuses on addressing 8.25 miles of ocean shoreline north and south of New River Inlet through beach nourishment from an offshore sand source and potentially from New River Inlet. The material obtained from New River Inlet would be associated with an inlet management plan that would include initial repositioning, deepening, and widening the channel through the inlet's ebb tide delta followed by periodic maintenance of the new channel.

The project will require the development of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) under the National Environmental Policy Act and the State Environmental Policy Act (SEPA). Environmental permitting efforts will include close coordination with the U.S. Army Corps of Engineers and the North Carolina Division of Coastal Management and will be subject to Sections 7, 10 and 401 and other applicable state and federal Acts. Permitting efforts may take 24 to 48 months depending on inlet management plan efforts. Document preparation and baseline data collection was initiated in December 2004.

The current design plan includes nourishing approximately 6.9 miles of shoreline along Topsail Island and approximately 1.0 mile of Onslow Beach with beach compatible sand material. The beach fill proposed for Onslow Beach would be part of the inlet management plan and would be required to maintain the existing sediment transport patterns across New River Inlet. Since a portion of the project area is within the U.S. Marine Corps' property boundaries, an effective and efficient coordination effort is needed between the Town, CPE and Marine Corps Base Camp Lejeune.

2008 LOGGERHEAD COURT NORTH TOPSAIL BEACH, NC 28460 PHONE (910) 328-1349 FAX (910) 328-4508
www.north-topsail-beach.org

CPE is currently mobilizing a team to conduct sidescan sonar investigations near the borrow area sites located offshore of North Topsail Beach. Sidescan sonar investigations are also needed along the designated fill area of Onslow Beach. The information collected will assist in identifying any natural hardbottom areas and changes in relief to be used for planning and permitting efforts. Our intent is to have CPE conduct the nearshore surveys along Onslow Beach at the same time as the offshore borrow area surveys are conducted, from March 9-11, 2005. This combined effort will save the Town approximately $5,000 dollars in mobilization costs. The Town would like to coordinate these efforts with the Marine Corps and discuss any potential funding support the Corps could provide in acquiring the Onslow Beach survey data and future project investigation activities.

The Town of North Topsail Beach would like to request a conference call to initiate these discussions and to answer any questions you may have regarding this project. Please contact myself at (910) 328-1349 or Erin Hague at (561) 391-8102 to schedule this call.

Sincerely,

Loraine M. Carbone

Loraine M. Carbone, Interim Town Manager
Town of North Topsail Beach

cc: Shelia Cox, NTB
Tom Jarrett, CPE
Erin Hague, CPE

From: Margaret W. Miller [Margaret.W.Miller@noaa.gov]
Sent: Tuesday, June 13, 2006 9:16 AM
To: Erin Hague
Cc: Michael Hellberg
Subject: Re: Oculina robusta
Attachments: HellbergMillerAbst-1MM.doc

Dear Ms. Hague,

You certainly have asked a tricky question. The taxonomy of the Oculina genus is quite muddled, a reply when I had asked questions about Oculina species since I was doing my dissertation in the early '90's in NC. As you learned, I am currently collaborating with Dr. Michael Hellberg (Louisiana State Univ), a geneticist, to develop genetic markers to look a species boundaries within this genus. We have sampled several named species including O.varicosa, O.robusta, and the supposed O.arbuscula (from around Beaufort, NC) from the upper Gulf of Mexico all the way around to NC. Preliminary resutls seem to indicate that there is very little genetic differentiation between different named species collected from the same site (i.e., around Ft. Pierce FL) but more variation between samples that are geographically separated (e.g., Gulf of Mexico vs. NC). I am attaching an abstract from a presentation made last Dec to the Int Deep Sea Coral Symposium on these results. As I mentioned, these results are preliminary and a more complete story should be forthcoming in the near future. In short, it is not clear that O.robusta is a separate sp. from the other Oculinas and thus, questions about distribution, abundance, and biology may be more generally applied to the Oculina genus. If so, you could examine the literature for O.varicosa (much by John Reed and more recently Sandra Brooke related to the Oculina banks area) and O. arbuscula in NC.

Good luck,

Margaret

Erin Hague wrote:

> Good Afternoon Dr. Miller:
>
> I'm researching /Oculina robusta/ and have found a very limited amount
> of information on this stony coral. I've found information on your
> research in the Oculina Banks and thought that you may be able to
> provide some insight on /O. robusta/. We've identified O. robusta

> colonies in Onslow Bay, North Carolina and am interested in any
> information you may have regarding distribution, abundance, tolerance,
> growth rates, etc. (and/or be able to point me in the direction of
> peer reviewed papers).
>
> Thank you in advance for your help.
>
> Kind regards,
>
> Erin
>
> Erin A. Hague
>
> Sr. Marine Scientist
>
> CPE Marine Science & Biological Research Dept.
>
> 2481 NW Boca Raton Blvd.
>
> Boca Raton, FL 33433
>
> (P) 561.391.8102
>
> (F) 561.391.9116
>
> (C) 561.239.3701
>
> www.coastalplanning.net <http://www.coastalplanning.net>
>

From: Matthew Godfrey [godfreym@coastalnet.com]
Sent: Wednesday, July 26, 2006 9:34 PM
To: Erin Hague
Subject: RE: topsail turtle data

Attachments: BHI.jpg

Hi Erin,
Map attached.
Let me know if you have questions.
Matthew

At 05:14 PM 7/26/2006, you wrote:
>Matthew:
>Thanks for sending along the data. I will have an opportunity to
>review it next week, but expect to have some questions on clarity
>issues (e.g., acronyms in the table). Also, can you forward the map of
>Topsail that you referred to in your email.
>Thanks again
>Erin
>
>Erin A. Hague
>Sr. Marine Scientist
>CPE Marine Science & Biological Research Dept.
>2481 NW Boca Raton Blvd.
>Boca Raton, FL 33433
>(P) 561.391.8102
>(F) 561.391.9116
>(C) 561.239.3701
>www.coastalplanning.net
>
>-----Original Message-----
>From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
>Sent: Thursday, July 20, 2006 3:01 PM
>To: Erin Hague
>Subject: topsail turtle data
>
>
>Hi Erin,
>
>Please find attached a spread sheet with sea turtle nesting activities
>from Topsail Island between 1996-2005 (last 10 years). I have included
>GPS locations for the years when the volunteers had GPS units - for
>earlier years, they simply grouped the nests within the nearest mile
>(called Zone on the excel sheets). I have attached a file of a map of
>Topsail that gives you an idea of where the zones are, although
>obviously it is not a precise location.
>
>The species codes are:
>CC=loggerhead
>CM=green turtle
>
>I apologize for taking so long to get these data to you; as usual,
>summer months tend to be overwhelming.
>
>best,
>Matthew
>
>
>
>
>==========

>Matthew Godfrey
>Sea Turtle Project
>North Carolina Wildlife Resources Commission
>1507 Ann St.
>Beaufort, NC 28516 USA
>tel: 252-728-1528
>email: godfreym@coastalnet.com

==========

Matthew Godfrey
Sea Turtle Project
North Carolina Wildlife Resources Commission
1507 Ann St.
Beaufort, NC 28516 USA
tel: 252-728-1528
email: godfreym@coastalnet.com

From: Matthew Godfrey [godfreym@coastalnet.com]
Sent: Thursday, July 20, 2006 3:01 PM
To: Erin Hague
Subject: topsail turtle data

Attachments: Topsail Nests1996-2005.xls

Hi Erin,

Please find attached a spread sheet with sea turtle nesting activities
from Topsail Island between 1996-2005 (last 10 years). I have included
GPS locations for the years when the volunteers had GPS units - for earlier years,
they simply grouped the nests within the nearest mile (called Zone on the excel
sheets).
I have attached a file of a map of Topsail that gives you an idea of where the zones
are,
although obviously it is not a precise location.

The species codes are:
CC=loggerhead
CM=green turtle

I apologize for taking so long to get these data to you; as usual, summer months
tend to be overwhelming.

best,
Matthew

==========

Matthew Godfrey
Sea Turtle Project
North Carolina Wildlife Resources Commission
1507 Ann St.
Beaufort, NC 28516 USA
tel: 252-728-1528
email: godfreym@coastalnet.com

-----Original Message-----
From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
Sent: Wednesday, September 20, 2006 2:14 PM
To: Lauren Floyd
Subject: RE: FW: NTB turtles

Hi Lauren,

Natural fluctuation. The entire SE USA coast reported extremely low nest totals for 2003. The latest figures for 2006 show 90 nests on Topsail Island.

Matthew

At 01:24 PM 9/20/2006, you wrote:
>Hi Matthew:
>
>Quick question for you. Could you please provide the most probable
>explanation for the great variation between years in the number of
>sea turtle nests (from the data you provided us):
>
>2001: 36 nests
>2002: 88 nests
>2003: 28 nests
>2004: 52 nests
>2005: 40 nests
>
>Is this due to natural variation, anthropogenic causes, or to
>sampling error?
>
>Thanks very much,
>Lauren
>
>Lauren S. Floyd
>Marine Biologist
>CPE Marine Science & Biological Research
>2481 N.W. Boca Raton Boulevard
>Boca Raton, FL 33431
>Phone: (561) 391-8102
>Fax: (561) 391-9116
>lfloyd@coastalplanning.net
>
>-----Original Message-----
>From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
>Sent: Wednesday, September 13, 2006 10:14 AM
>To: Lauren Floyd
>Subject: Re: FW: NTB turtles
>
>
>Hi Lauren,
>
>Answers below
>
> >   * How do I interpret the following emergence data: If there is a
> > "?", "unknown", "hurricane", a blank space, or for 2002 there is no
> > column for emergence data at all. Could you explain if each one of
> > those means you couldn't relocate the nest, or definitely no
> > turtles hatched, or if it was washed away, etc.
>*** No value means no data. ? usually means that the nest lost or not
>observed during emergence (either due to lack of personnel or a storm
>washed away the nest markers). Hurricane usually means lost to

>erosion, although it could also the case that only the nest markers
>were lost while the eggs survived, but nobody could find the location
>again to monitor it for emergence.
>
>
>
> >   * In the activity column, could you clarify what F, FC, and N
> > mean? (I assume F and FC are false crawls, N nesting)
>
>*** Correct
>
> >   * What do the following acronyms mean: TIVO, TBVO?
>
>*** TIVO = Topsail Island Volunteer Organization; TBVO = Topsail
>Beach Volunteer Organization (they are identical)
>
> >   * Regarding the map of the "zones", it looks like zones 219-241
> > are all of Topsail Island, is that correct? Also, could you please
> > tell me which zones belong to only North Topsail Beach?
>*** I can't really tell you because we have never defined the mile
>markers by town lines. Also, the exact borders of the mile markers
>have always been fuzzy, due to erosion/accretion at the ends of
>islands. Sorry I can't be more help with this.
>
>Matthew
>
>
> >
> >I think that is all I need. If you could back to me asap, I'd
> >really appreciate it. If it's easier for you, please feel free to
> >give me a call at the work number below. Thanks again for your help.
> >
> >Cheers,
> >Lauren
> >
> >Lauren S. Floyd
> >Marine Biologist
> >CPE Marine Science & Biological Research
> >2481 N.W. Boca Raton Boulevard
> >Boca Raton, FL 33431
> >Phone: (561) 391-8102
> >Fax: (561) 391-9116
> ><mailto:lfloyd@coastalplanning.net>lfloyd@coastalplanning.net
> >
>
>
>==========
>Matthew Godfrey
>Sea Turtle Project
>North Carolina Wildlife Resources Commission
>1507 Ann St.
>Beaufort, NC 28516 USA
>tel: 252-728-1528
>email: godfreym@coastalnet.com
>

==========
Matthew Godfrey
Sea Turtle Project
North Carolina Wildlife Resources Commission
1507 Ann St.
Beaufort, NC 28516 USA

tel: 252-728-1528
email: godfreym@coastalnet.com

-----Original Message-----
From: Matthew Godfrey [mailto:godfreym@coastalnet.com]
Sent: Wednesday, September 13, 2006 10:14 AM
To: Lauren Floyd
Subject: Re: FW: NTB turtles

Hi Lauren,

Answers below

> * How do I interpret the following emergence data: If there is a
> "?", "unknown", "hurricane", a blank space, or for 2002 there is no
> column for emergence data at all. Could you explain if each one of
> those means you couldn't relocate the nest, or definitely no
> turtles hatched, or if it was washed away, etc.
*** No value means no data. ? usually means that the nest lost or not observed during emergence (either due to lack of personnel or a storm washed away the nest markers). Hurricane usually means lost to erosion, although it could also the case that only the nest markers were lost while the eggs survived, but nobody could find the location again to monitor it for emergence.

> * In the activity column, could you clarify what F, FC, and N
> mean? (I assume F and FC are false crawls, N nesting)

*** Correct

> * What do the following acronyms mean: TIVO, TBVO?

*** TIVO = Topsail Island Volunteer Organization; TBVO = Topsail Beach Volunteer Organization (they are identical)

> * Regarding the map of the "zones", it looks like zones 219-241
> are all of Topsail Island, is that correct? Also, could you please
> tell me which zones belong to only North Topsail Beach?
*** I can't really tell you because we have never defined the mile markers by town lines. Also, the exact borders of the mile markers have always been fuzzy, due to erosion/accretion at the ends of islands. Sorry I can't be more help with this.

Matthew

>
>I think that is all I need. If you could back to me asap, I'd
>really appreciate it. If it's easier for you, please feel free to
>give me a call at the work number below. Thanks again for your help.
>
>Cheers,
>Lauren
>
>Lauren S. Floyd
>Marine Biologist
>CPE Marine Science & Biological Research
>2481 N.W. Boca Raton Boulevard
>Boca Raton, FL 33431
>Phone: (561) 391-8102
>Fax: (561) 391-9116

><mailto:lfloyd@coastalplanning.net>lfloyd@coastalplanning.net
>

==========
Matthew Godfrey
Sea Turtle Project
North Carolina Wildlife Resources Commission
1507 Ann St.
Beaufort, NC 28516 USA
tel: 252-728-1528
email: godfreym@coastalnet.com

From: Sugg, Mickey T SAW [Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Monday, February 12, 2007 8:15 AM
To: Erin Hague; Tom Jarrett; sheliac@north-topsail-beach.org; lorainec@north-topsail-beach.org
Subject: FW: North Topsail Beach Shore Protection Plan (NTB SPP), Preliminary Draft Environmental Impact Statement (PDEIS) (UNCLASSIFIED)
Attachments: NTBSPP_PDEIS_NCWRC_Comments.doc

Classification: UNCLASSIFIED
Caveats: NONE

These are the only comments I have received as of today. I'm assuming most are thinking that the project is dead; and they don't want to spend the time reviewing the document and writing up comments.

Any updates on what the future holds for this project.
-Mickey

-----Original Message-----
From: Steve Everhart [mailto:steve.everhart@ncwildlife.org]
Sent: Tuesday, February 06, 2007 2:58 PM
To: Sugg, Mickey T SAW
Cc: 'Susan Cameron'; 'Matthew Godfrey'; 'Doug Huggett'; 'Fritz Rohde'
Subject: North Topsail Beach Shore Protection Plan (NTB SPP), Preliminary Draft Environmental Impact Statement (PDEIS)

Mickey, our comments regarding the North Topsail Beach Shore Protection Plan (NTB SPP), Preliminary Draft Environmental Impact Statement (PDEIS) are attached.
Thanks

Steve

Steven H. Everhart, PhD, CWB
Southeastern Permit Coordinator
NCWRC/Habitat Conservation Pgm.
127 Cardinal Drive
Wilmington, NC 28405
PH: 910-796-7217/ 910-512-7983 FAX: 910-350-2004
EMAIL: steve.everhart@ncwildlife.org

Website: www.ncwildlife.org
E-mail correspondence to and from this address may be subject to the North Carolina Public Records Law N.C.G.S. Chapter 132 and may be disclosed to third parties.

Classification: UNCLASSIFIED
Caveats: NONE

Erin Hague

From: Sugg, Mickey T SAW [Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Wednesday, June 22, 2005 8:33 AM
To: Erin Hague; Tom Jarrett; Tom Cassell (E-mail); Shelia Cox (E-mail); Craig Kruempel
Subject: FW: NTBSPP Project Delivery Team

EIS comments from Coastal Federation.

-----Original Message-----
From: Coastkeeper [mailto:coastkeeper-cf@nccoast.org]
Sent: Tuesday, June 21, 2005 3:09 PM
To: Sugg, Mickey T SAW
Cc: Tursi; Frank; Todd Miller
Subject: RE: NTBSPP Project Delivery Team

North Carolina Coastal Federation

Wilmington Field Office | 131 Racine Dr., Suite 101 | Wilmington, NC 28403
Phone: 910-790-3275 | **Fax:** 910-790-9013 | **Website:** www.nccoast.org

June 21, 2005

Mickey Sugg
Wilmington District
U.S. Army Corps of Engineers
P. O. Box 1890
Wilmington, North Carolina 28402-1890

RE: Notice of Intent to Prepare a Draft Environmental Impact Statement (DEIS) for the Nourishment
of 7.25 Miles of Beach, the Repositioning of the New River Inlet Channel, and the Implementation of an
Inlet Management Plan, in North Topsail Beach, Onslow County, NC
Mickey,

I am responding on behalf of Todd Miller to your invitation for him to participate on the North Topsail Beach Shoreline Protection Project (NTBSPP) Project Delivery Team (PDT) to aid in the preparation of the EIS document. We greatly appreciate the invitation to participate in the discussion for this project. Unfortunately we are currently very short staffed due to staff on maternity leave and disability leave which is making it difficult for us to take on new projects. We are discussing how we may be able to effectively participate in the discussion and scoping process for the NTBSPP. We will let you know as soon as possible if we will be able to attend and participate in the PDT meeting on July 7th.

In the meantime we are forwarding (below) some general recommendations for consideration for the drafting of the project Draft Environmental Impact Statement (DEIS).

Please let me know if you have any questions. Todd or I will contact you about the PDT meeting next week.

Thank you for your time and consideration.

Best,
Ted

Ted Wilgis - Cape Fear COASTKEEPER®
North Carolina Coastal Federation
Wilmington Field Office
University Corporate Center II
131 Racine Dr., Suite 101
Wilmington, NC 28403
Phone: (910)790-3275
Mobile: (910)231-6605
Fax: (910)790-9013
www.nccoast.org

Recommendations for consideration for the drafting of the NTBSPP Draft Environmental Impact Statement (DEIS):

1) The PDT should carefully review the physical and biological monitoring results from the Mason Inlet Relocation Project and the Bogue Inlet projects to ensure that "lessons learned" from these projects are incorporated into the DEIS for the NTBSPP. It may be prudent to give the Bogue Inlet project some time to evolve to see how well the PDT actually anticipated the project outcomes.

2) All secondary and cumulative impacts must be identified and adequately addressed in the EIS, including those impacts that could affect estuarine or offshore fisheries resources, onshore and offshore threatened and/or endangered species, critical habitats, and the sediment budget on adjacent islands and mainland areas

3) All site-specific uncertainties of the implications must be modeled and corrected in the EIS prior to project approval, especially those impacts that are related to wave refraction and "draw down" of the ebb tidal delta;

4) The need for a nearby source of beach compatible sand must be balanced with potential environmental impacts from the inlet-dredging project.

5) Environmental documents must adhere to the sequencing procedures that require avoidance, minimization, and finally compensation, including mitigation of impacts. All opportunities to avoid and minimize the long-term and multiple environmental impacts associated with beach or inlet projects must be exhausted prior to compensating or mitigating for such impacts.

6) Only compatible sources of sand should be used for the project that meet the State Standard for compatibility and sediment criteria. The EIS should contain quantitative limits on the amount of fine and course material that may be placed on the beach. The EIS should also include quantitative limits so that the nourishment material matches the mineralogy and color

of the native beach. The standards for the project must be included in the permit applications and in the final permits. If the project encounters material that violates the State sand compatibility standards during construction, the project should have in place a plan to halt operations, correct the deficiency, and conduct mitigation if appropriate.

7) The ecosystem monitoring and protection plan must ensure that monitoring is conducted prior to, during and for several years following a beach nourishment or inlet alteration project. To be valid and meaningful, data collection and power analysis must be relevant to similar beach nourishment or inlet alteration projects in North Carolina. Pre-project, and post-project monitoring must be of sufficient duration and repetition to allow for an accurate comparison of conditions and understanding of impacts to the ecosystem. Monitoring should include (a) turbidity, (b) biomass, population and species of invertebrates at the borrow site, beach and nearshore area, (c) number and types of shorebirds migrating, foraging and nesting, and (d) population, biomass and species of fish in the surf zone and borrow area. Independent experts in biological, physical and geological sciences should be engaged to develop and implement the monitoring plans during each season of the year and the plan must be peer reviewed prior to approval.

8) The project must be timed to avoid impacts to fish and wildlife. The project must observe a moratorium on construction to avoid impacts to fish and wildlife. The Wildlife Resources Commission and the Division of Marine Fisheries have established moratoria that prohibit dredging and construction of beach nourishment projects from April 1 through November 15. In inlet areas with high turtle activity, dredging and construction should only be allowed from January through March. All equipment must be removed from the beach prior to the beginning of a moratorium. If the project "takes" a total of five sea turtles, then the project must permanently cease operations until the next dredging window. When water temperatures rise above 58 degrees, all hopper dredging must halt until temperatures fall below 58 degrees.

9) The project must meet the standards for public access and resource protection for federal civil works, Section 933 projects and Section 206 projects - Access sites every ½ mile and parking for access sites that meets peak hour demand or beach capacity, whichever is greater. The project sponsors must enact and enforce appropriate ordinances to protect federal migratory birds in newly created habitat to insure that humans or animals do not disturb threatened and endangered species.

----- Original Message -----
From: Sugg, Mickey T SAW
To: Harris, Keith A SAW ; Brodmerkel, Jan P SAW ; Livermore, Raymond R SAW ; Yelverton, Frank SAW ; Varnam, Ralph H SAW ; Mayor Rodney Knowles (E-mail) ; Tom Cassell (E-mail) ; Shelia Cox (E-mail) ; David Rabon (E-mail 2) ; Howard Hall (E-mail) ; smtp-Sechler, Ron ; Scott Brewer (E-mail) ; Harry Simmons (E-mail) ; Jim Gregson (E-mail) ; Jon Giles (E-mail) ; Doug Huggett (E-mail) ; Noelle Lutheran (E-mail) ; Fritz Rohde (E-mail) ; Anne Deaton (E-mail) ; Mike Street (E-mail) ; Matthew Godfrey (E-mail) ; Susan Cameron (E-mail) ; David Allen (E-mail) ; Todd Miller (E-mail) ; Michelle Duval (E-mail) ; Buddy Godwin (E-mail)
Cc: Tom Jarrett (E-mail) ; Erin Hague (E-mail) ; Craig Kruempel (E-mail)
Sent: Wednesday, June 15, 2005 7:54 AM

Good Morning,
This short note is to inform you that we will be holding our first Project Delivery Team meeting on July 7th (Thursday) for the North Topsail Beach Shoreline Protection Project. The meeting will be held at North Topsail Town Hall, probably at 10:00. The majority of this meeting will be CP&E presenting detailed information to us about their findings. I will be mailing each of you a letter formally requesting your participation on the PDT.

Thanks,

Mickey Sugg
Corps of Engineers
PO Box 1890
Wilmington, NC 28402
Office, (910) 251-4811
Fax, (910) 251-4025

From: Sugg, Mickey T SAW [Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Thursday, December 15, 2005 10:34 AM
To: Erin Hague; Craig Kruempel; Shelia Cox (E-mail); Loraine Carbone (E-mail); Tom Jarrett
Subject: FW: waterbird monitoring for N. Topsail Beach

Morning-
Need to start thinking about some type of pre-monitoring plan for the birds. It's my position not to go longer than a year and to confine it within the inlet (no ocean shoreline monitoring). I would expect that the monitoring would be on a smaller scale than that of Bogue and not as complicated, hopefully resulting in a lower cost. I haven't spoken with David Rabon (FWS) regarding any pre-monitoring for this project, but I expect that he would require this.
-Mickey

-----Original Message-----
From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Wednesday, December 14, 2005 4:40 PM
To: Sugg, Mickey T SAW
Cc: 'Steven H. Everhart'; Allen, David H.; howard_hall@fws.gov
Subject: waterbird monitoring for N. Topsail Beach

Hi Mickey,

I would like to request some bird monitoring in association with the North Topsail Beach project. We should be thinking about a minimum of one year pre project monitoring along with some post project monitoring. This will be necessary to evaluate impacts of a one time channel relocation event and to have some information with which to compare future changes after multiple events. For pre project monitoring I would suggest a protocol similar to the Bogue Inlet work. Surveys should be conducted within the inlet complex and should cover both high and low tide cycles. We'll have to determine the duration of post project monitoring. One question I have is how long will it take for the inlet shorelines to reconfigure after the initial channel relocation? Does CP&E have an estimate for this yet? We'll be requesting other environmental commitments for waterbirds depending on which project alternative is selected, but we can discuss these later in the process.
Thanks and enjoy your holidays.

Sue Cameron
North Carolina Wildlife Resources Commission Waterbird Biologist
253 White Oak Bluff Road
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
PO BOX 1890
WILMINGTON NC 28402-1890

August 1, 2005

RECEIVED
AUG 0 5 2005
BY: EH, CL

Regulatory Division

Action ID: 200500344

Mr. Ted Wilgis, Cape Fear Coastkeeper
North Carolina Coastal Federation
University Corporate Center II
131 Racine Drive, Suite 101
Wilmington, North Carolina 28403

Dear Mr. Wilgis:

This letter serves to officially confirm you, a non-resource agency, as a member of the Project Delivery Team (PDT) for the North Topsail Beach Shoreline Protection Project in North Topsail Beach, Onslow County, North Carolina. The purpose of the PDT is to review a variety of issues involved in this proposal. These issues include, but not limited to, navigation, shoreline protection of private and public lands, alternative and scoping analysis, sand budget and compatibility, aquatic resource impacts, post and pre-project monitoring, threatened and endangered species, water quality and turbidity, and socio-economics. It is our intention to hold the meetings at least once a monthly, contingent on available information, and will focus on a few topics at each meeting.

If you plan to be a PDT member for this project, please respond to me by e-mail, Mickey.T.Sugg@usace.army.mil; , or by conventional mail. In your response, please include your address, both mailing and e-mail, fax number, and phone number. If you have any questions, please contact me, at (910) 251-4811.

Sincerely,

Mickey Sugg
Project Manager
Wilmington Regulatory Field Office

Same Letter To:

Mr. Todd Miller
North Carolina Coastal Federation
3609 Highway 24
Newport, North Carolina 28570

Mr. Ron Lewis, Manager
Onslow County
118 Old Bridge Street
Jacksonville, North Carolina 28540

Mr. Harry Simmons
N.C. Beach Inlet and Waterway Association
Post Office Box 1317
Oak Island, North Carolina 28465

Ms. Michelle Duval
Environmental Defense
2500 Blue Ridge Road, Suite 330
Raleigh, North Carolina 27607

Senator Harry Brown
2223 N. Marine Boulevard
Jacksonville, North Carolina 28546

Mr. Steve Walter, Vice-Chairman
Topsail Island Shoreline Protection
Committee
717 N. Anderson Boulevard
Topsail Beach, North Carolina 28445

Copies Furnished:

Mr. Tom Cassell, Town Manager
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

Ms. Shelia Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

Mr. Jim Gregson, District Manager
Wilmington Regional Office
N.C. Division of Coastal Management
127 Cardinal Drive Ext.
Wilmington, North Carolina 28405-3845

Mr. Doug Huggett
Division of Coastal Management
N.C. Department of Environment
and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557-3421

Mr. Jon Giles
N.C. Division of Coastal Management
127 Cardinal Drive Ext.
Wilmington, North Carolina 28405-3845

Ms. Erin Hague
Coastal Planning & Engineering, Inc.
2481 N.W. Boca Raton Boulevard
Boca Raton, Florida 33431

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
PO BOX 1890
WILMINGTON NC 28402-1890

May 25, 2005

Regulatory Division

Action ID No. 200500344

Mr. Tom Cassell
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

Dear Mr. Cassell:

Reference is made to your letter dated January 24, 2005 in which you provided information on the environmental consulting firm that you feel are qualified to prepare the Environmental Impact Statement (EIS) for North Topsail Beach's proposal to nourish approximately 7.25 miles of beach along North Topsail Beach using offshore and New River Inlet as a sand source and to incorporate a comprehensive management plan for New River Inlet, Onslow County, North Carolina. Your letter stated that your first preference is Coastal Planning & Engineering, Incorporated (CPE). Based on the information contained in your letter, we agree CPE Incorporated is qualified to prepare the EIS for the proposed project, provided the firm properly executes and returns to us the enclosed disclosure statement mandated by 40 CFR §1506.5(c).

The Town of North Topsail Beach will retain CPE, Incorporated, at its cost, to prepare the EIS. Notwithstanding payment by the Town of North Topsail Beach, the Wilmington District will supervise and direct the preparation of the EIS. The details of this relationship between the USACE, the Applicants, and the Contractor, as well as detailed procedures for processing of the EIS, are described in the attached Processing Agreement. Before USACE will formally engage in the EIS process, you will be required to sign this agreement.

If you have any questions, problems, or changes in language that you might have concerning the processing agreement, please do not hesitate to contact me in the Wilmington Regulatory Division Office at (910) 251-4811.

Sincerely,

Mickey Sugg
Regulatory Project Manager

Enclosures

Copies Furnished:

Mr. Jim Gregson, District Manager
Wilmington Regional Office
N.C. Division of Coastal Management
127 Cardinal Drive Extension
Wilmington, North Carolina 28405-3845

Mr. Doug Huggett
Division of Coastal Management
N.C. Department of Environment
and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557-3421

Mr. Tom Jarrett
Coastal Planning & Engineering, Inc.
204 Dorchester Place
Wilmington, North Carolina 28412

Mr. Craig Kruempel
Coastal Planning & Engineering, Inc.
2481 N.W. Boca Raton Boulevard
Boca Raton, Florida 33431

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southeast Regional Office
263 13th Avenue South
St. Petersburg, Florida 33701

July 7, 2005

Colonel Charles R. Alexander, Jr.
District Engineer, Wilmington District
Department of the Army, Corps of Engineers
Regulatory Division
P. O. Box 1890
Wilmington, North Carolina 28402 -1890

Attention: Mickey T. Sugg

Dear Colonel Alexander:

The National Marine Fisheries Service (NMFS) has reviewed Action ID No. 200500344 describing plans submitted by the Town of North Topsail Beach (NTB) to nourish 7.25 miles of ocean beach and relocate New River Inlet in Onslow County, North Carolina. The key purpose of the project is to alleviate shoreline erosion.

Based on information contained in the public notice; coordination with the applicant's consultant; and our knowledge of the project area, we are concerned that the proposed activities would adversely impact living marine resources. The first phase of the project would involve dredging to reposition the New River Inlet (NRI) navigation channel to a more central location, and dredging Cedar Bush Cut (CBC). CBC is a 2.0-mile-long navigation channel that links NRI to the Atlantic Intracoastal Waterway and New River (NR) Estuary. The dredged material from this work would be placed along a 1.1-mile-long section of beach at NTB and on the south end of Onslow Beach. The second phase would utilize material dredged from an offshore barrow area to nourish the remaining 6.15-mile-long section of ocean beach at NTB. An inlet management plan would be developed to monitor and maintain the inlet channel once it is relocated.

The South Atlantic Fisheries Management Council (SAFMC) has designated habitats in both the NR estuary and NRI as essential fish habitat (EFH) for a variety of federally managed species. These habitats include estuarine tidal marsh, tidal creeks, mud bottoms, and inner marsh which are utilized by larval and juvenile brown and pink shrimp and juvenile red drum. Similar EFH is found in the vicinity of CBC and the proposed NRI channel realignment. Submerged bottoms containing sand and shell substrate is common throughout the overall project area and has been designated as EFH for larval and juvenile pink shrimp; and eggs, larvae and adult red drum which spawn in and near the inlet. Both the NR Estuary and NRI are designated as

geographically defined Habitat Areas of Particular Concern (HAPC) for the above mentioned species. HAPC are those areas which due to their rarity, susceptibility to human-induced degradation, ecological importance, or location in an environmentally stressed area, are EFH.

Submerged aquatic vegetation (SAV), which is also present in the project area, is designated as EFH and HAPC for larval and juvenile brown, white, and pink shrimp and red drum. Based on a recent aerial survey by the North Carolina Division of Marine Fisheries (NCDMF) of coastal waters between Bogue Inlet and Wilmington, the extent of SAV in this region of the state is considerably greater than originally thought. According to the applicant's consultant, digital aerial photography of the project area will be acquired and used to identify SAV and oyster reefs. (Oyster reefs are designated as EFH for adult red drum.) Both SAV and oyster reefs are designated as high-quality habitats by the NCDMF and are managed under their Coastal Habitat Protection Plan.

In addition to concerns associated with the effects of dredging, we are also concerned that the proposed offshore borrow area may be located near live/hard bottom habitats designated as EFH and HAPC for federally managed species. In the southeast, the SAFMC manages commercially and recreationally important marine fishes associated with live/hard bottom EFH. Fishes that utilize these areas include members of the snapper-grouper complex such as scamp, gray snapper, white grunt, and black seabass.

Finally, the estuarine and marine water column in the project area is designated as EFH for summer flounder, bluefish, and spiny dogfish which are under the jurisdiction of the Mid-Atlantic Fishery Management Council (MAFMC). The beachfront surf zone, a subcategory of marine water column EFH is important habitat for juvenile summer flounder and bluefish. This relatively high energy environment also supports invertebrate species such as coquina clams and mole crabs that are important components of the near shore and surf zone food webs.

Other fishes of commercial, recreational, and ecological importance found in the project area include Atlantic croaker, spot, Atlantic menhaden, striped mullet, and pinfish. These species also serve as prey for species such as king mackerel, Spanish mackerel, cobia, and others that are managed by the SAFMC, and for highly migratory species (e.g., tuna, billfishes, and sharks) that are managed by the NMFS. Detailed information on federally managed fisheries and their EFH is provided in the 1998 amendments of the Fishery Management Plans of the South and Mid-Atlantic Regions prepared, respectively, by the SAFMC and the MAFMC. The amendments were prepared in accordance with provisions of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (P.L. 104-297).

Project activities that could adversely affect EFH and HAPC include dredging of the CBC, dredging to relocate and maintain the NRI channel, dredging in the offshore borrow site, and the placement of dredged material on the ocean beach and in the existing inlet channel (as needed for channel relocation). Notably, the public notice provides no information on the dimensions or alignment of the relocated inlet channel or dredge and fill activities associated with closing the existing inlet channel. Dredging of intertidal and subtidal shoals to relocate the NRI channel would adversely impact EFH.

The public notice provides no information on the location or dimensions of the offshore borrow area. Dredging for fill material would deepen the area and eliminate benthic invertebrates that may be present and which are consumed by near-shore fishes such as bluefish, summer flounder, and spiny dogfish. Studies have documented aspects of recovery of similar offshore borrow sites; however, recovery of the proposed borrow site offshore of NTB has not been evaluated.

The presence of submerged hard/live bottoms located offshore of NTB is of special interest and concern to us. The offshore excavation of sand could harm this highly important EFH if fine sediments become suspended by dredging and are redeposited here by local currents. Absolute assurance that these habitats will not be adversely impacted will be needed in order to meet the EFH conservation requirements of the Magnuson-Stevens Act.

We further note that recent nourishment of Bogue Banks beaches in Carteret County has shown that existing techniques used to locate suitable borrow materials and locations are not always accurate, and unsuitable material may be placed on the beach. Material with a higher percentage of shell or fines than that found on the existing beach may adversely impact surf zone EFH and associated fauna. The surf zone provides habitat for fishes such as whiting, Florida pompano, and southern flounder that are highly sought after by recreational fishers. Consequently, any project related change in sediment type and/or degradation of water quality that supports these species is of concern.

Planned development of an inlet management plan is mentioned in the public notice, but necessary details concerning associated environmental effects are lacking. The frequency of maintenance of a relocated inlet channel has a direct bearing on species abundance and diversity. The NMFS is concerned that frequent maintenance will create a situation where population recovery is continually interrupted and precluded. Also, given the number and distribution of beach nourishment projects located to the north and south of the proposed project, the regional cumulative effect could be substantial and needs to be evaluated.

The NMFS is also concerned that area to be nourished is a part of the Coastal Barrier Resource System (CBRS). CBRS designation was intended to protect the natural character of a site by prohibiting the expenditure of federal funds that might encourage development. Although it does not appear that federal monies would be spent for proposed work, there is some overlap with federal expenditure for maintenance of NRI. This, along with measures needed to conserve natural habitats within the CBRS, need to be fully addressed. Clearly, the Wilmington District should not authorize any activity that contravenes the purposes of the CBRS or other natural resource conservation mandates.

Based on the preceding, and in the absence of an environmental assessment or impact statement, or EFH assessment, we provide the following:

EFH Conservation Recommendation

Department of the Army authorization should be withheld pending full disclosure of all significant environmental impacts and an EFH assessment is provided for NMFS review.

Consistent with Section 305(b)(4)(B) of the Magnuson-Stevens Act and NMFS's implementing regulations at 50 CFR 600.920(k), your office is required to provide a written response to our EFH recommendation within 30 days of receipt. Your response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the proposed activity. If your response is inconsistent with our EFH conservation recommendation, you must provide a substantive discussion justifying the reasons for not implementing those recommendations. If it is not possible to provide a substantive response within 30 days, the Corps of Engineers should provide an interim response, to be followed by the detailed response. The detailed response should be provided in a manner to ensure that it is received by the NMFS at least ten days prior to final approval of the action.

These comments do not satisfy your consultation responsibilities under Section 7 of the Endangered Species Act of 1973, as amended. If any activity(ies) "may effect" listed species and habitats under the NMFS purview, consultation should be initiated with our Protected Resources Division at the letterhead address.

Thank you for the opportunity to provide these comments. Please direct related questions or comments to the attention of Ronald Sechler in our Beaufort Field Office at 101 Pivers Island Road, Beaufort, North Carolina 28516-9722, or at (252) 728-5090.

Sincerely,

David H. Bradley

Miles M. Croom
Assistant Regional Administrator
Habitat Conservation Division

cc:
USFWS, Raleigh
NCDCM, Morehead City
EPA, Whittier

From: Noelle Lutheran [Noelle.Lutheran@ncmail.net]
Sent: Thursday, July 20, 2006 10:31 AM
To: Erin Hague
Subject: Re: NTU Standard

That is correct. Sorry that I was not able to attend the meeting yesterday. It is 25 or cannot increase existing background turbidity levels. See 15A NCAC 02B. 0220, 0.221 and .0222. The SC standards also apply to SA and SB waters. Perhaps it would be valuable to get some base-line data in the area since it appears to be absent. I think the real concern in this case is the potential for the settling of sediment in the hard bottom areas during beach renourishment?

Erin Hague wrote:

> Noelle:
>
> Can you confirm the water quality NTU standard that would apply for
> work in New River Inlet and along the nearshore and offshore of North
> Topsail Beach. I believe that it's 25 NTU, but need to confirm.
>
> Thanks
>
> Erin
>
> Erin A. Hague
>
> Sr. Marine Scientist
>
> CPE Marine Science & Biological Research Dept.
>
> 2481 NW Boca Raton Blvd.
>
> Boca Raton, FL 33433
>
> (P) 561.391.8102
>
> (F) 561.391.9116
>
> (C) 561.239.3701
>
> www.coastalplanning.net <http://www.coastalplanning.net>

>

From: Ron Sechler [ron.sechler@noaa.gov]
Sent: Tuesday, January 30, 2007 4:19 PM
To: Dawn York; Erin Hague; Sugg, Mickey T SAW
Subject: Re: comments on the draft North Topsail Beach EFH

Dawn,

This email is to confirm that the June 2006, EFH assessment, prepared by CPE for the beach nourishment project proposed by North Topsail Beach (NTB), adequately identifies federally managed species and potential project related impacts to their EFH. We note that additional studies and documentation regarding hard bottom EFH are underway (for the southern addition to the project) and that this information will be included in the final EFH assessment. NMFS's ultimate position on the NTB project will, of course, not be determined until the project design and the assessment of environmental impacts, avoidance of impact to our trust resource and any appropriate mitigation is fully addressed in the EIS.

In response to your question, the approach used by CPE in developing the NTB EFH assessment and the federally managed species addressed there in are also relevant and appropriate for the emergency beach nourishment projects proposed at Topsail Beach and Figure Eight Island. We anticipate that the same level of information will be included in the EFH assessments for these projects. This is especially important regarding potential impacts to hard/live bottom habitat just offshore of the beach and in the vicinity of any offshore borrow sites.

If you have additional questions, I can be contacted as indicted below.

Sincerely,

Ron Sechler
National Marine Fisheries Service
Habitat Conservation Division
101 Pivers Island Road
Beaufort, North Carolina 28516
Phone: 252-728-5090
Fax: 252-728-8728
Email: ron.sechler@noaa.gov

Dawn York wrote:

> Good afternoon Ron – as you requested, I am inquiring via email for comments in association with the draft report on the North Topsail Beach EFH. We are in the process of compiling information for an EFH in association with Topsail Beach and Figure Eight Island – we would like to confirm the correct species are included and discussed appropriately.
> We appreciate your time, Dawn
> *Dawn M. York*
> CPE Marine Science & Biological Research Dept.

330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

North Carolina Department of Cultural Resources

State Historic Preservation Office

Peter B. Sandbeck, Administrator

Michael F. Easley, Governor
Lisbeth C. Evans, Secretary
Jeffrey J. Crow, Deputy Secretary

Office of Archives and History
Division of Historical Resources
David Brook, Director

March 12, 2008

Mickey T. Sugg
USAED-RG, Wilmington
P.O. Box 1890
Wilmington, NC 28402-1890

Re: North Topsail Beach Shoreline Protection Project, Onslow County, ER 07-2723

Dear Mr. Sugg:

Thank you for your letter of February 13, 2008, transmitting the archaeological survey reports by Tidewater Atlantic Research (TAR) for the above project. TAR surveyed two areas in conjunction with this project: an offshore borrow site, and a channel alignment area within New River Inlet.

The TAR remote sensing survey located no magnetic or acoustic anomalies within the boundaries of the proposed offshore borrow area. TAR recommends that no further archeological investigation be conducted of that area. We concur with that recommendation.

The TAR remote sensing survey of the channel alignment area within New River Inlet located 10 magnetic anomalies within the area of potential impact. It is TAR's opinion that those anomalies are representative of "small single ferrous objects" and are not likely to be associated with shipwrecks or other significant submerged cultural resources. TAR recommends that no further archaeological investigation be conducted of this area. We concur with that recommendation.

Although it is not likely that the project will encounter significant archaeological material, we would like to notify you that this project should be undertaken with caution. If during construction submerged archaeological materials are encountered, such as shipwreck remains, it is the responsibility of the Army Corps of Engineers-Wilmington District to notify us immediately, pursuant to Section 106 of the National Historic Preservation Act of 1966.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

Peter Sandbeck

cc: State Clearinghouse

UNITED STATES MARINE CORPS
MARINE CORPS BASE
PSC Box 20004
Camp Lejeune, North Carolina 28542-0004

IN REPLY REFER TO:
5090/11.1
BEMD
APR 15 2005

Loraine Carbone
Interim Town Manager
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460

Dear Ms. Carbone:

In response to your March 4, 2005 letter and our subsequent phone conversation, this letter provides information requested about sensitive species on Onslow Beach. This information was requested in order to assess potential impacts of dredging and realigning New River Inlet, and depositing sand on Onslow Beach.

Onslow Beach, not including Brown's Island, is approximately 7 miles of relatively undisturbed beach, which provides habitat for several sensitive species. The following threatened species utilize habitat that may be impacted by dredge and fill activities, especially on southern-most end of Onslow Beach: sea-beach amaranth (*Amaranthus pumilus*), loggerhead sea turtle (*Caretta caretta*), and green sea turtle (*Chelonia mydas*). The project would also impact potential nesting habitat for the endangered piping plover (*Charadrius melodus*). Onslow Beach also provides habitat for state-listed species, including the least tern (*Sterna antillarum*), and Wilson's plover (*Charadrius wilsoni*), which are regular nesters at the New River Inlet and a washover flat just north of the accreting southern end of the island.

Sea-beach amaranth is regularly found in large numbers on Onslow Beach. Between 15 July and 15 August 2004, 1797 individual plants were found on Onslow beach (Enclosure 1). Of those, 1670 plants were found at the extreme south-end of Onslow Beach, comprising 93 % of the 2004 population. Although it is difficult to predict where seabeach amaranth will appear from year to year, New River Inlet and the washover flat consistently harbor the majority of the amaranth on Onslow Beach.

Washover and inlet areas that tend to harbor seabeach amaranth also may provide habitat for the endangered piping plover. Although no piping plover nests have been documented on Onslow Beach, potential breeding pairs, and individual birds use the south end of Onslow Beach and the washover area (Enclosure 2). Between 2000 and 2004, 21 piping plovers were seen on Onslow Beach. Onslow Beach is surveyed for piping plovers and other

shorebirds every week to ten days. Piping plovers also may be spotted during morning surveys for sea turtle nests.

By far, the majority of sea turtles that nest on Onslow Beach are loggerhead sea turtles. Green sea turtles are occasional, but much less frequent nesters on Onslow Beach. From 2000 to 2004, 191 sea turtle nests were found on Onslow Beach, with a high of 51 in 2003, and a low of 7 in 2004. Enclosure 3 shows sea turtle nest locations on the south end of Onslow Beach for the last five years. Nesting season for sea turtles runs from May through October in North Carolina.

Three federally endangered species of sea turtle, Kemp's Ridley (*Lepidochelys kempii*), leatherback (*Dermochelys coriacea*), and hawksbill (*Eretmochelys imbricata*), inhabit the waters surrounding Camp Lejeune. Kemp's Ridley and leatherback sea turtles have both been found stranded on Onslow Beach.

We hope the information provided here satisfies your request. Please let us know if there is anything else we can provide for you regarding natural resources on Onslow Beach. The point of contact regarding this matter is Mr. Craig Ten Brink, Wildlife Biologist, Environmental Conservation Branch, Environmental Management Division, at (910) 451-7228.

Sincerely,

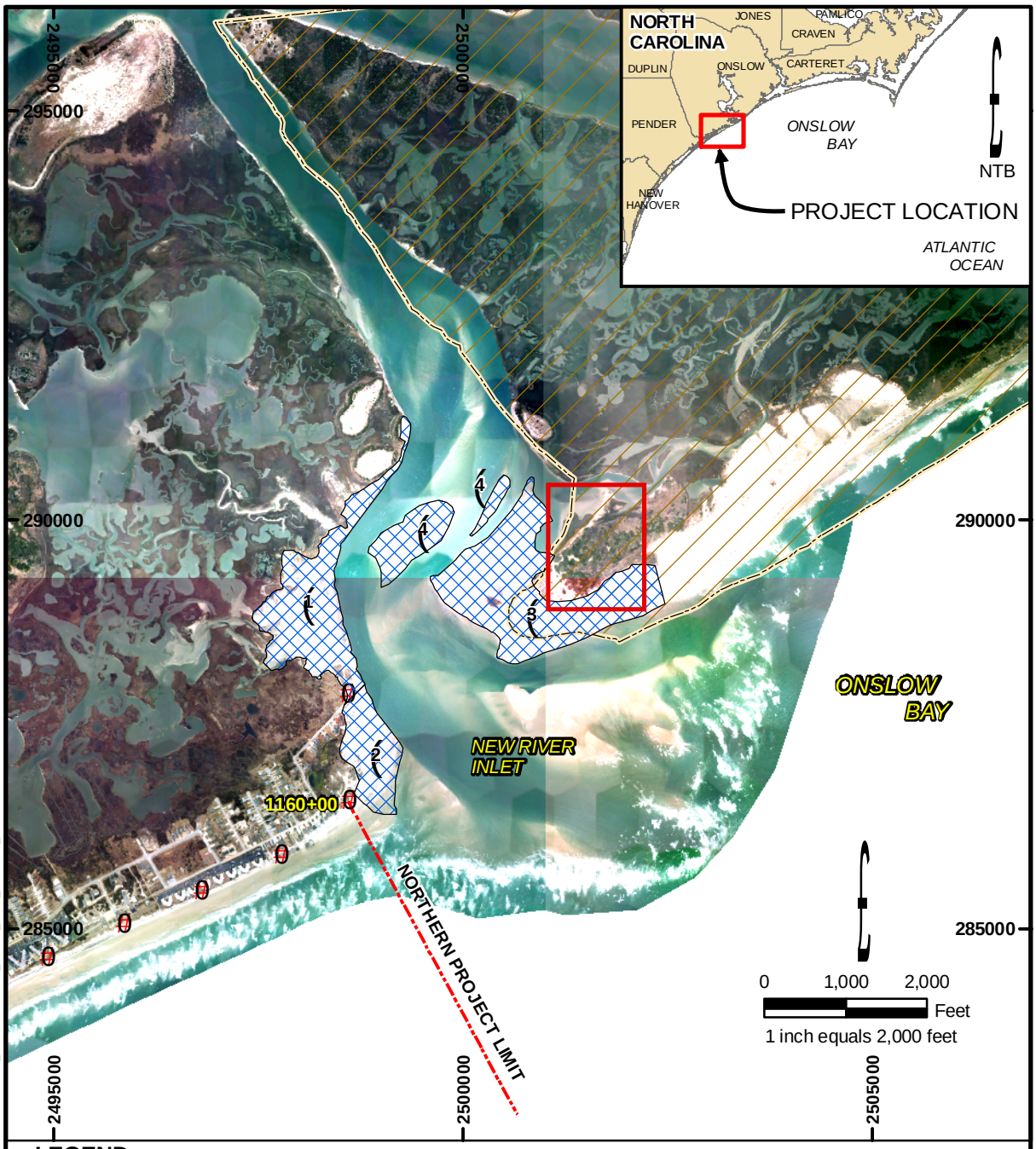
SCOTT A. BREWER, PE
Director, Environmental Management
By direction of
the Commanding General

Enclosures:
(1) Map depicting Sea-beach Amaranth Occurrences South of Risley Pier, Summer 2004
(2) Map depicting Piping Plover Sightings South of Risley Pier, 2003-2004
(3) Map depicting Sea Turtle Nests on Onslow Beach South of Risley Pier, 1999-2004


Enclosure 1
Sea-Beach Amaranth Site Boundaries
Southern Portion of Onslow Beach
2004
Legend
0
0.25
0.5
1 Miles
N
W
E
S
Sea Beach Amaranth Site Boundaries
Prepared by Kat Diersen


Enclosure 2
Piping Plover Observations
Southern Portion of Onslow Beach
2000-2004
2
0 0.25 0.5 1 Miles
Prepared by Helen Miller
Legend
N
W E
S
Piping Plover


Enclosure 3
Sea Turtle Nests
Southern Portion of Onlsow Beach
2000-2004
Legend
2004
2003
2002
2001
2000
0 0.25 0.5 1 Miles
Prepared by Sara Hodge
N
W
E
S



LEGEND

- BIRD MONITORING TRANSECT AREAS
- USMC ACCESS AREA
- PROJECT FILL LIMIT
- CAMP LEJEUNE MCB
- USACE BASELINE STATION

NOTES

1. COORDINATES SHOWN HEREON ARE IN FEET BASED ON THE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM OF 1983 (NAD 83).
2. DATE OF AERIAL PHOTOGRAPHY: FEBRUARY 2005.
3. AERIAL PHOTOGRAPHY FLOWN BY: GEO-VANTAGE.

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BLVD.
BOCA RATON, FL 33431
PH.(561)391-8102
FAX. (561)391-9116

TITLE:

USMC BIRD ACCESS MAP

DATE: 11/06/06	BY: DNR	COMM NO: 4600.27	FIGURE 1

G:\North Carolina\NORTH_TOPSAIL_BEACH\460027_PDEIS_DEVELOPMENT_MXD\NTOPSAIL_USMC_BIRD_ACCESS_110706.mxd

From: Shelia Cox [sheliac@north-topsail-beach.org]
Sent: Wednesday, May 09, 2007 5:13 PM
To: Dawn York
Cc: Tom Jarrett; Erin Hague; Craig Kruempel; bsmith@north-topsail-beach.org
Subject: RE: Additional information for DEIS
Hello Dawn:

I do have a CD-ROM of the AFB for the SC/NTB Shore Protection Project. Do you need that via overnight delivery or regular mail?

I will need to research regarding the request for dune planting history & dune stabilization projects. Are your requesting info on any previously hauled in material or sand pushing?

I only learned during the USACE & NCDWR coastal communities' conference on April 10th that the NRI was a critical harbor of last refuge. I will contact the USACE, Wilmington office for details/documentation on this issue.

I will need to get with a co-worker regarding the address request. How soon are these addresses needed?

I received your Friday email on Monday, which states you are attending a board meeting this coming Wednesday. Is that Wednesday, May 9th & what exact meeting are you referring to? The next BNC meeting is scheduled for Wed, May 16th.

Thank you,

Shelia H. Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Phone: 910/328-1349
Fax: 910/328-4508

From: Dawn York [mailto:Dyork@coastalplanning.net]
Sent: Friday, May 04, 2007 4:24 PM
To: sheliac@north-topsail-beach.org
Cc: Erin Hague; Craig Kruempel
Subject: Additional information for DEIS

Hello Sheila, based on requests from PDT members and the COE during the recent North Topsail PDT meeting, the following additional information is needed from the Town:

1. Do you have a copy of the finalized ARB report (Southern Section feasibility study for North Topsail Beach) or know who I can request a copy from?

2. We will need to incorporate data on the history of dune stabilization projects and dune plantings within the limits of the North Topsail Shoreline Protection project. Information will need to include locations of man-made vs. natural vegetated dune systems, dates and measurement data of dune stabilization projects. Please refer to Appendix C of the PDEIS for study area maps for reference of project boundary limits.

3. Can you also provide information on the “Last Area of Refuge” designation for New River Inlet? Has this designation already been approved?

4. We will need a distribution list of all addresses of residents inside the boundary limits of the project area. An electronic copy (via cd) of the DEIS will be sent to all residents of North Topsail beach that reside within the limits of the study area.

I will be attending the board meeting this coming Wednesday evening if you’d like to discuss these requests further. I appreciate your help and please let me know if you have any questions.

Thank you,
Dawn

Dawn M. York
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Shelia Cox [sheliac@north-topsail-beach.org]
Sent: Friday, July 13, 2007 2:19 PM
To: Dawn York
Subject: Requested info for DEIS

Dawn: You requested data on the history of dune stabilization projects & dune plantings within the limits of the North Shoreline Protection project. Anything prior to Ophelia has been destroyed and not previously logged or recorded. Our sea oats supplier and installer for the past 7 years did a review of the Town's vegetated dune system. I rode the beach with him recently and he stated or estimated that only 10% of the Town's dunes are vegetated.

You also requested a distribution list of all addresses of residents inside the boundary limits of the project area. The Town Manager requested that I ask you for a definition of the boundary limits. Does that include addresses at the inlet, etc.

Thank you,

Shelia H. Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Phone: 910/328-1349
Fax: 910/328-4508

From: Shelia Cox [sheliac@north-topsail-beach.org]
Sent: Monday, August 13, 2007 10:44 AM
To: Dawn York
Cc: 'Kathleen Clough'
Subject: RE: Threatened Structures Land & Structure Values.xls

Good morning Dawn: The 1246, 1242 & 1256 NRI addresses need to be deleted from the current threatened structures list. The Town's CAMA officer has a part-time assistant named Barry in her department . He went out on site this morning and reported to me that Shipwatch Villas should not be on the current threatened structures list & that 1246, 1242, & 1256 do not have structures on them. I then went to the CAMA officer and asked if she had been informed of this info. I asked for her to please review the 1200 block in case other addresses needed to be substituted for the above addresses. Ms. Hill stated she would get back with me by this afternoon after she went out on site. I apologize for the delay and I will forward you an update as soon as I receive updated information.

Best regards,

Shelia H. Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Phone: 910/328-1349
Fax: 910/328-4508

From: Dawn York [mailto:Dyork@coastalplanning.net]
Sent: Monday, August 13, 2007 9:07 AM
To: Shelia Cox
Subject: RE: Threatened Structures Land & Structure Values.xls

Good morning Sheila – please review attached table for accurateness. There is one question regarding the highlighted addresses – you had provided an earlier list that showed $5,000 as the property value however now it shown as much higher, please confirm. Also, I need to include a name of NTB financial officer or another appropriate reference/source.

Thank you for all your help with this task,
Dawn

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Shelia Cox [mailto:sheliac@north-topsail-beach.org]
Sent: Friday, August 10, 2007 4:34 PM
To: Dawn York
Cc: 'Kathleen Clough'
Subject: Threatened Structures Land & Structure Values.xls

<<...>>

From: Shelia Cox [sheliac@north-topsail-beach.org]
Sent: Tuesday, July 17, 2007 2:39 PM
To: Dawn York
Cc: 'Dick Macartney'; bsmith@north-topsail-beach.org; 'Becky Bowman'
Subject: Requested Info for DEIS

Attachments: Threatened Structures June 2007.pdf
Hello Dawn: The Town's dune contractor is Steve Mercer of Coastal Transplants. His cell number is 431-9814. He has planted for the Town and for individual property owners for at least the past 7 years. He is out of state until Wednesday, July 18th. Just let him know I provided his contact info.

The distribution list of addresses should consist of all ocean front properties and those on the sound side from River Dr to Dolphin Street? I will have to get with our finance officer that created and updates our tax data base with that pertinent info. She is out of the office all this week.

I have attached the list of threatened structures determined by the Town's CAMA LPO, Deb Hill as per your request.

Thank you for including the Town on the pre-teleconference meeting and the teleconference meeting with Doug Huggett. The Town would definitely like to minimize any mitigation requirements that might financially delay other anticipated phases of an anticipated shoreline protection program.

Best regards,

Shelia H. Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Phone: 910/328-1349
Fax: 910/328-4508

From: Shelia Cox [sheliac@north-topsail-beach.org]
Sent: Tuesday, August 14, 2007 12:49 PM
To: Dawn York
Cc: 'Kathleen Clough'; Tom Jarrett; 'Dick Macartney'
Subject: Structure Value for NTB Threatened Structures

Attachments: Threatened Structures Land & Structure Values.xls
Dawn: I have attached the list for the structure values for the threatened structures which were determined by the Town's CAMA officer. I used the Onslow County website to print out property record cards for each parcel. I listed the structure value from each property card to complete the attached list. I have printed all the data so it may be included within your files as permanent records since this info will be included in the DEIS.

I am out of the office on Wednesday and Thursday. I will return to the office on Friday, August 17th if you need any additional information.

Note: Topsail Dunes consisted of 41 units, Shipwatch Villas Townhomes consisted of 5 units and each Topsail Reef building consisted of 30 units.

Shelia H. Cox
Capital Projects Coordinator
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, NC 28460
Phone: 910/328-1349
Fax: 910/328-4508

From: Steve Mercer [smercer@coastaltransplants.com]
Sent: Wednesday, August 01, 2007 9:19 AM
To: Dawn York
Subject: North Topsail

Ms. York,

Based on our company records and on-site inspections I have conducted at North Topsail Beach, the following information can be used for your information.

Plants installed since the year 2000 ---- 610,000

Linear feet of sand fence installed since year 2000 ----- 75,000

This is slightly harder to pinpoint since there are several suppliers of fence.

Thank you for your patience in this request. If you need further information please call 431-9814.

Steve Mercer

North Carolina Wildlife Resources Commission

Richard B. Hamilton, Executive Director

MEMORANDUM

To: Mickey T. Sugg
Wilmington District USACE

From: Steven H. Everhart, PhD, CWB
Southeastern Permit Coordinator
Habitat Conservation Program

Date: February 6, 2007

Subject: North Topsail Beach Shore Protection Plan (NTB SPP), Preliminary Draft Environmental Impact Statement (PDEIS)

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) have been continuously involved with the project delivery team (PDT) and the EIS process for this project. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et. seq.), the Clean Water Act of 1977 (as amended) and the North Carolina Environmental Policy Act (G.S. 113A-1 et seq., as amended; 1 NCAC-25).

The Town of North Topsail Beach (NTB) proposes to nourish approximately 11 miles of beach in order to protect homes and infrastructure immediately south of New River Inlet. The majority (7 miles) of the project area is within the Coastal Barrier Resources Act (CoBRA) zone associated with the New River Inlet and its Inlet Hazard Area of Environmental Concern (AEC). The proposed sand sources include an offshore borrow area and, potentially, the New River Inlet. We have the following concerns/recommendation regarding the PDEIS:

Overall, we are disappointed with the PDEIS. The document does not present a well-balanced approach to impacts. As written, it primarily represents a justification for the preferred alternative and demonstrates a lack of understanding for natural barrier island ecosystems.

General Comments

The analysis assumes relocation of the New River inlet channel will protect houses on the north end of NTB, even though engineers indicated uncertainty about this in PDT meetings. This uncertainty needs to be reflected throughout the DEIS. Erosion rates could increase because less sand will be transported to the islands as a result of sand moving into the inlet to rebuild the mined ebb tide delta. If erosion rates do not decrease as a result of the relocation, there is no need for the relocation. If the purpose of maintaining the channel is for use as a sand source, then this needs to be a stated objective of the project.

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The preferred alternative calls for maintaining a 500 foot wide, 15 foot deep channel. This is much larger than the current authorized dimensions of the channel (90 feet wide and 6 feet deep). We question the need for such a large channel and have concerns about impacts to surrounding habitats. The PDEIS needs to better explain why these dimensions were selected. It appears that the purpose is to have enough sand for periodic nourishment. Whether or not the flow dynamics model took into account the increased size of the channel is not explicitly stated.

The piping plover and waterbird sections are poorly organized and difficult to understand. These sections should be rewritten so readers can understand the biology and habitat needs of these birds. It should be made clear that the species we are most concerned about (i.e. early successional nesters such as piping plovers, terns, and skimmers), are dependent on habitats maintained by coastal storm events and resulting overwash. Also, there are inaccurate descriptions of birds using the different habitats. For example, the document discusses waterbirds nesting in salt marsh communities and dune communities. Finally, the document does a poor job distinguishing between breeding birds and non-breeding birds. Make the document clear, to which it is referring and include detailed discussions on both.

The PDEIS should provide some discussion of eastern painted bunting, which is state listed as significantly rare and federally listed as a species of special concern. Painted buntings breed in the maritime shrub/scrub habitat on North Topsail. It is also worth mentioning that other priority songbird species listed in the NCWRC Wildlife Action Plan (NCWRC 2005), such as sharp-tailed sparrows and sedge wrens; utilize the permit area as well.

The organization of the "Habitats" section is very confusing and appears incomplete as written. For some habitat types, but not all, detailed descriptions are included about wildlife that utilize the different habitat types. It would be better to have a Natural Resources section that includes descriptions of each resource and lists habitats that are important to the particular faunal/floral group. This would also be less repetitive. As written, there are many errors. For example, the document describes the nesting of shorebirds under salt marsh communities; a habitat that, while important, does not provide nesting sites for most of our breeding shorebirds.

The soundside salt marshes should also be included in the permit area. These areas will be impacted by beach nourishment and the construction and maintenance of a storm berm. Especially on the north end, the presence of a storm berm will prevent overwash fans from forming in the marsh. The overwash fans create habitat and provide for landward migration of barrier islands resulting in extension of marsh into the estuary behind the island as it migrates.

Throughout the DEIS, the dunes that run the length of N. Topsail beach are considered a natural resource when in fact they are man-made. Given how narrow the island is, much of it would be overwash habitat if the berms weren't maintained. These berms provide very little, if any habitat for wildlife and actually lead to a loss of important habitat such as overwash fans. Waterbirds do not use these artificial dunes as indicated in several places in the document. This should be corrected throughout.

The document fails to discuss the possibility that the project on N. Topsail will accelerate erosion on adjacent Onslow Beach. This needs to be measured and commitments set in place to address increased erosion if it occurs. Potential loss of shoreline on Onslow Beach needs to be addressed as a negative impact of the preferred alternative. Even if Onslow Beach is also nourished, there is a significant negative impact for it is necessitating the nourishment of a once natural stretch of barrier island.

The document should include some discussion of increasing sea level rise and how this will impact the various alternatives. In addition to the accelerated erosion rate that the project area is experiencing, the current estimated rise in sea level should be included in the no construction alternative.

The PDEIS does not provide an adequate description of the benthic resources or impacts of the various alternatives on the benthic resources. There is quite a bit of literature on macroinvertebrates, yet the PDEIS has a very limited literature review. The document states that invertebrate populations will recover within weeks or months. While high quality beach fill material and timing of placement will minimize impacts to beach invertebrates, we still have concerns over short term, long term, and cumulative impacts of this project. First, it is

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unclear when peak recruitment time for macroinvertebrates occurs on North Topsail Beach. A study on Pea Island found peak recruitment of coquina clams was in March and concluded that nourishment in March or April would depress the population in the region of nourishment for at least a full year (Donoghue 1999). Even if invertebrate populations fully recover within one year of the project, this is still a significant amount of time with depressed food resources available to foraging shorebirds over a large area. Also, it is not clear what impacts the project will have over the long term on wave energy climate and beach slope. These are two key factors important to macroinvertebrates (McLachlan 1990, McArdle and McLachlan 1992). Peterson et al. (2000) also raises this concern writing "…longer-term impacts are possible arising from persistent modifications of the physical environment." From the engineering report, it appears that some of the material to be placed on the beach will be coarser than native material. Coarser material can inhibit the burrowing of beach infauna (Alexander et al. 1993, Bowman and Dolan 1985, Manning 2003, Peterson 2000). Furthermore, an increase of coarse material can steepen the foreshore and thus reduce the wet habitat area (Peterson et al. 2006, Peterson et al. 2000).

The document indicates with some certainty that there will be no long term or cumulative impacts on the benthic community. While quite a bit of work has been done examining the impacts of beach nourishment on invertebrate populations, we still do not fully understand effects on the natural resources. For example, we do not know what the cumulative impacts of multiple nourishment events are on invertebrate populations. There is simply not enough information to say there will be no long term or cumulative impacts on invertebrate populations from a 30-year project. Also, we would expect recovery time to be slower since such a long stretch of beach is being nourished. Nourishing long, continuous stretches of beach can limit recolonization (Peterson 2006). Also, few studies associated with beach nourishment have looked at body size of invertebrates in addition to abundance on renourished beaches (Peterson and Bishop 2005). It is possible that most repopulation occurs from larval recruitment thus decreasing the size of prey items available to shorebirds. There is also very limited information on the invertebrate communities at inlets and how inlet stabilization impacts these communities. Much work is needed to fully understand fundamental processes in the natural beach system (Peterson and Bishop 2005).

The PDEIS fails to acknowledge the importance of natural barrier island functions, such as island overwash, to natural resources and the health of barrier island habitats and the role beach stabilization plays in preventing this important process. Nourishment and dune construction prevents overwash and contributes to a loss of habitat for breeding and non-breeding waterbirds, including piping plovers. According the Atlantic Coast Piping Plover Recovery Plan (USFWS 1996), nourishment of eroding beaches impedes overwash that would otherwise create and maintain ephemeral pools and bayside mudflats; preferred piping plover habitat. Tidal flats and ponds are important feeding areas to piping plovers at the start of the nesting season and at other times of the year (Fraser 2005). These areas are created during storm-caused overwash and other erosional processes (Leatherman 1982), and beach stabilization efforts reduce the number and extent of these overwash events (Dean 1999). Beach stabilization, dune construction and disruption of natural processes (erosion, accretion, overwash, longshore transport, etc.) are listed as major contributing factors to the loss of suitable breeding and non-breeding habitat for colonial waterbirds (Hunter et al. 2006). Overwash is also important in maintaining barrier islands. Where large dunes prevent overwash, beach sediment in front of the dunes can be transported offshore during storms causing the island to narrow, while if overwash is allowed to occur, the net volume of sand is often maintained and the island migrates landward (Donnelly et al. 2006). If other alternatives were considered (e.g. non-structural plan), the beach would overwash as it migrated landward during natural processes and habitat would be created. Furthermore, the prevention of island overwash can lead to sediment starvation on the sound side. The PDEIS does not consider loss of marsh on the back side of the island as a result of preventing island overwash. Throughout the impacts analysis, it is written that the salt marsh on the sound side of the island will be protected by the nourishment and berm construction. In fact, barrier islands naturally migrate landward during times of sea level rise. This is accomplished through overwash events where sediments are pushed to the sound side. This actually acts to build marsh on the sound side. The preferred alternative and other "action" alternatives would prevent overwash and starve the sound side of sediment, potentially leading to a loss of salt marsh. Finally, large scale nourishment projects can lead to increased development based on a false sense of security. This further contributes to habitat loss and can actually increase storm damage as more and larger buildings are constructed. It is therefore reasonable to conclude that large nourishment projects such as this have unavoidable impacts on waterbirds, especially given the extent to which beach altering projects are occurring along our coast.

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The PDEIS ignores negative impacts to shorebirds, including piping plovers, colonial waterbirds and other coastal fauna, associated with maintaining an inlet in a fixed position. The PDEIS should discuss the implications of maintaining an inlet in a fixed position. Inlet and shoreline stabilization are listed as factors affecting plover survival and utilization of wintering habitat and breeding habitat (USFWS 1996). Under cumulative impacts to "inlets dunes and beaches" the PDEIS concludes "Without repositioning the New River Inlet to a more perpendicular position, the dunes within the Inlet complex of the Permit Area may be susceptible to erosion. The loss of dune habitat in the Inlet complex would threaten dune vegetation, as well as degrading the habitat used by several species of roosting foraging and nesting shorebirds." Again this demonstrates a total lack of understanding of barrier island processes and the habitat needs of shorebirds and other waterbirds. Waterbirds are adapted to the dynamic nature of inlets and barrier islands. Inlet migration actually creates the bare, sandy habitat needed by most species of shorebirds and other waterbirds. The PDEIS should have statements about positive impacts of having a migrating inlet to the natural resources (would happen in several of the alternatives) instead of just negative impacts to humans. Potential adverse impacts are noted, but positive impacts to the resources are omitted.

Inaccuracies about natural barrier island processes can be found throughout the impacts analysis. Natural barrier island movement that is allowed to continue as in Alternatives #1 and #2 will actually have positive impacts on habitat and wildlife. For example, a migrating inlet allows for the formation of microhabitats and dune breaches and overwash events create habitat for waterbirds including piping plovers. These are viewed as negative impacts in the PDEIS. While they may have negative impacts on homes and infrastructure, they are, in fact, positive environmental impacts. Alternatives 3-6 need to reflect the fact that stabilization of the beach will reduce overwash events, which is a negative environmental impact. The PDEIS should be changed to accurately reflect these natural processes.

T**he discussion of the alternatives should acknowledge the impacts of severe storms on the various alternatives.** For example in Section 3.2.3 (p. 17) it is written that complete recovery of the shoreline under alternative 3 is expected to take 15 years. It is certainly possible that a severe storm could hit during this time period. How severe storms are expected to impact the project should be discussed throughout.

The mitigation section is inadequate to fully address impacts from this project. There are several known impacts as well as several potential, unanticipated impacts that will/can result from this project. There will be a loss of forage base for shorebirds that lasts at least months subsequent to a nourishment event. Maintaining the channel through New River Inlet will act to stabilize the inlet. Stabilization of inlets is considered a serious threat to piping plovers because it can lead to a net loss of suitable habitat (USFWS 1996). It also negatively impacts colonial waterbird and other shorebirds as it can eliminate or reduce microhabitats needed by these birds. There will be a loss of overwash and blowout habitats due to the maintenance of a 15 foot dune on the beach front. We recommend the following environmental commitments should the preferred alternative be permitted:

- Prohibit all beach scraping activities.

- Conduct long term habitat monitoring to look at changes near the inlet and along North Topsail and Onslow Beach. Analyses of microhabitats and changes in salt marsh on the sound side should be included.

- Participate in research/restoration projects for benthic organisms. These should be well designed studies that help to answer questions that remain about benthic organisms.

- Allow creation of nesting habitat on nearby dredge islands by using material dredged from Cedar Bush Cut to cover vegetation on islands (i.e. this material should go to the islands rather than N. Topsail as it has in the past since N. Topsail would be receiving sand from other sources).

- Plan and implement a management plan for waterbirds using the north end of Topsail Island.

There may also be some unanticipated changes that need to be addressed. For example, stabilization of the inlet could lead to increased vegetation and loss of bare sand habitat on the inlet beaches. This should be monitored

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and, if necessary, restoration activities should create open/sandy habitats. Also, there was some discussion during PDT meetings that there could be losses of sand along the inlet shoreline and on Onslow Beach. These losses need to be mitigated.

The PDEIS should include procedures to halt, correct and mitigate if incompatible material is encountered during dredging. The PDEIS should include specific details about whether and who is responsible for things such as removing incompatible material (e.g. recent situations in Atlantic Beach and Holden Beach), breaking up large escarpments, etc. There should be specific text stating that the disposal sites will be visited by teams (including NCWRC personnel) during and after the project, to evaluate whether the material meets the requirements laid out by the PDEIS. If the material does not meet the minimum standards, it should be removed within 10 months at the expense of the permit holder (the town). In regard to sea turtles and fill compatibility, we feel that there is a disparity between what is known about sand color effect on sea turtle reproduction (reflectance, sand temperature, nest temperature, sex ratios of hatchlings, etc.) and the current color compatibility requirements. Therefore, we recommend that any operational monitoring plan include post nourishment monitoring of sea turtle nest and sand temperatures, similar to what is being done in Bogue Banks and Holden Beach, at the expense of the applicant.

If public parking is to be required as part of the project we would object to that parking usurping natural habitats that contribute to wildlife diversity. We have concerns with the addition of parking at the north end of the island that would impact important habitats such as estuarine shrub/scrub, swale areas, dunes, etc.

Throughout the document the headings and listings of "colonial waterbirds, shorebirds and waterbirds" are used. This is redundant. Change the text to just waterbirds or colonial waterbirds, shorebirds and other waterbirds.

Several sections (e.g. 4.2.3, p. 35, 2nd paragraph) of the document list waterbird activity in NC to include "foraging, roosting, nesting, wintering and migrating." These should read either "foraging, roosting and nesting" or "breeding, wintering and migrating". One set refers to activities and the other to season of use.

Specific Comments

4.2.3 (p. 33) – upper color of piping plover is pale gray, not brown

4.2.3 (p. 34, 1st paragraph) – "…they may use other shoreline habitats if these are not available." These "other" habitats should be specified.

4.2.3 (p. 34, 3rd paragraph) – "The loss of the Atlantic Coast habitat has largely been attributed to the energy from wave systems acting on a permanent structure, altering the natural beach processes." This statement is confusing. Does this mean there is a loss of habitat due to the loss of natural overwash events because of development? This needs to be clarified.

4.2.3 (p. 34, 4th paragraph) – This paragraph is not at all clear. We suggest that fecundity can certainly have a strong effect on populations. Citations should be used to support statements.

4.2.3 (p. 34, 6th paragraph) – Should use more up-to-date data to describe trends in the Atlantic Coast population.

4.2.3 (p. 35, 2nd paragraph) – change to read "…breeding piping plovers last recorded in 1993." While there was suitable habitat present in years following 1993, human disturbance and mammalian predators likely prevented birds from nesting at N. Topsail since that time. Mammalian predators are also a huge issue on Onslow Beach and could explain why a nest has not been discovered there.

4.2.3 (p. 35, 2nd paragraph) – the document is incorrect in the way it presents the piping plover data. First, it is sometimes unclear whether it is referring to breeding or non-breeding birds. Second, it should be made clear that non-breeding piping plover data for NCWRC are based on just a few opportunistic sightings and NOT regular surveys. It should be noted that just because few records exist in the database, this does not indicate that piping

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plovers don't use North Topsail; it may simply be the result of lack of survey effort. Surveys conducted by biologists with Camp Lejeune were much more regular in nature. The piping plover data in the WRC database include sightings by Camp Lejeune biologists. Plover numbers at North Topsail cannot be directly compared with those at Onslow Beach so it is misleading to state that "…WRC did not detect any piping plovers along the North Topsail overwash between their 2000 and 2003 surveys, and it observed 89 piping plovers on Onslow Beach between 2000 and 2004." Furthermore, during the limited surveys, piping plovers were observed on the north end of Topsail Beach on three occasions during fall migration. There are other inaccuracies in this paragraph regarding the data. For example, 89 individual piping plover were not observed. Rather, there are 89 observations of piping plovers in the database. Many of these are likely duplicate observations of the same birds sighted on back-to-back days. The paragraph needs to be rewritten so the data is presented clearly. Please contact Sue Cameron with NCWRC to clarify information with the datasets that were provided.

4.2.3 (p. 35, 3rd paragraph) – the last sentence under Wilson's plover misrepresents the data. Complete counts were only conducted in 1989 and 2004. Observations in between these years were only anecdotal and do not represent the true number of breeding pairs of Wilson's plovers. It would be more accurate to write "Wilson's plovers are regular breeders in the permit area. Complete surveys were conducted in 1989 and 2004, when x# and x# pairs of breeding Wilson's plovers were found."

4.2.3 (p. 36, 1st paragraph) – Gull-billed terns have nested near the permit area on dredge islands near the mouth of the New River. While gull-billed terns are not breeding in the permit area, they certainly can be found there other times of the year. The historical status listed as an "*" in the NHP lists can mean that the area has not been surveyed so it is not a definitive statement that the species is gone from the area. We have observed gull-billed terns hawking insects over the flats on the north end of Topsail Beach in recent years.

4.2.3 (p. 36, 2nd paragraph) – It should be noted that least terns are regular breeders in the permit area. Common terns and black skimmers have historically nested near the permit area (on dredge islands just to the north in mouth of New River) and all three species utilize the permit area during the non-breeding season.

4.2.3 (pp. 35-36) - This section should include discussions of American oystercatchers. Also, in discussions of the various listings/rankings for species of waterbirds, it should be noted that while many of discussed species may be considered globally secure, they are listed as species of high conservation concern on a regional and/or continental scale. Common terns are undergoing significant declines in the southeast and so are listed as a species of regional concern (Hunter et al. 2006). Gull-billed terns, least terns and black skimmers are listed as species of high conservation concern for North America (Kushlan et al. 2002). Wilson's plovers and American oystercatchers are listed nationally as species of high conservation concern (Brown et al. 2001).

4.2.3 The document should include some discussion of the importance of habitats near New River Inlet to non-breeding wading birds as well. For example, there can be large concentrations of non-breeding wading birds using the marshes in the permit area and we have seen a reddish egret, one of the most vulnerable species of long-legged waders in the southeast (Hunter et al. 2006), foraging in the tidal creeks at the flats on the north end of the island.

4.3 – There should be discussions of overwash habitats in "Permit Area Habitats."

4.3.2 and 4.3.3 repeatedly and incorrectly reference section 4.3.1.1 on salt marsh communities. The correct section(s) should be referenced.

4.3.1.1 (p. 39, 1st paragraph) contains a list of "shorebirds" yet some of these are actually colonial waterbirds. Delete common tern, black skimmer, gull-billed tern, and least tern. The last sentence of this paragraph was taken out of context. It is unclear what it means in this paragraph. The use of these other habitats should be stated.

4.3.1.1 (p. 39, 2nd paragraph) – first sentence should read "migrating and wintering". This second sentence is confusing. They don't fly thousands of miles in search of suitable habitat, but they do fly thousands of miles to get to breeding sites. It should indicate that most shorebirds that migrate through and winter in NC are long distance migrants and they breed in the Arctic. The last sentence lists two species that are migrants, but these species also breed here. Since this paragraph discusses long distance migrants, include species that breed in the Arctic that can

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be found during the non-breeding season at New River Inlet (e.g. red knot, dunlin, western sandpiper, sanderling, etc.). Also, migrant and wintering shorebirds deserve further discussion. Most Arctic breeding species are experiencing significant declines. Dramatic declines of red knots recently lead to their listing as a candidate species under the Endangered Species Act. More discussion on threats and habitat needs of non-breeding shorebirds is necessary.

4.3.1.1 (p. 40, 2nd paragraph) – should use most up-to-date data. We have coast-wide data from 2004. Also there should be discussion of why these species are declining.

4.3.1.1 (p. 40, last paragraph) – The document should also mention that there are high concentrations of wintering red-throated loons, common loons and northern gannets off North Topsail and Onslow Beach. In fact, Onslow Bay is listed as an IBA (Important Bird Area) by National Audubon Society, in part because it supports the largest concentrations of wintering common loons in the state and a significant number of wintering red-throated loons (Golder 2004)

4.3.2.2 9 (p. 50) – In a natural state, the oceanfront beach would also overwash and these overwash fans would be used by waterbirds. So this is not a feature unique to inlets. Inlet areas are extremely important to waterbirds because they are so dynamic and productive. The formation of microhabitats as a result of inlet migration should also be discussed.

4.3.3 – (p. 53) – need to include detailed discussion of overwash and blowout habitats in beach/dune section. These habitats are extremely important to coastal wildlife including waterbirds, sea turtles and seabeach amaranth.

4.3.3.1 (p. 53) – it should be noted that most of the dune communities in the permit area are maintained by humans, rather than natural dune communities.

4.3.3.1 (p 54, 2nd paragraph) – this paragraph is misleading. Supratidal habitat, intertidal habitat, overwash fans and blowouts are important to coastal birds, but berms are not used.

Section 4.3.3.2 states: "Five species of sea turtles nest on North Carolina beaches: the green sea turtle, loggerhead sea turtle, leatherback sea turtle, hawksbill sea turtle and Kemp's ridley sea turtle." This section and other sections where marine turtle species nesting in NC are listed or discussed should be corrected to include the leatherback sea turtle as several have nested in NC and the potential exists for them to nest on Topsail Island.

4.3.3.3 (p. 55, 2nd paragraph) – Should include supporting citations for recovery times and it should be noted that research on the effects of multiple events is lacking. Long term and cumulative effects from multiple-year projects are largely unknown. Also, depending on the quality of the material, recovery could take longer than indicated after the initial event. This section should include a better review of the literature.

4.3.4.2 states: "Surveys and tracking studies show that as fall approaches and the turtles leave inshore waters and bays in North Carolina and Virginia, they migrate close to the coast moving south of the Cape Hatteras area (Keinath et al., 1987). Inland water temperatures in North Carolina often fall below the lethal lower limit of loggerhead sea turtles (5 to 6.5º C [41 to 43.7oF]) (Musick et al., 1997) and account for the movement of juveniles from the sounds of North Carolina to coastal waters (Epperly et al., 1995). Those juveniles that remain in North Carolina waters winter off the coast near the western edge of the Gulf Stream (Epperly et al., 1995)."

More recent satellite tracking studies have been accomplished and a more thorough examination of high-use areas is warranted. Please see:

Coyne, M. S. and B. J. Godley. 2005. Satellite Tracking and Analysis Tool (STAT): an integrated system for archiving, analyzing and mapping animal tracking data. Mar Ecol Prog Ser:301:1-7. Available at http://www.int-res.com/articles/feature/m301p001.pdf

Halpin, P.N., A.J. Read, B.D. Best, K.D. Hyrenbach, E. Fujioka, M.S. Coyne, L.B. Crowder, S.A. Freeman & C. Spoerri. 2006. OBIS-SEAMAP: developing a biogeographic research data commons for the ecological

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studies of marine mammals, seabirds, and sea turtles. Marine Ecology Progress Series 316: 239-46. Available at http://www.int-res.com/articles/meps_oa/m316p239.pdf

4.9 states: "Five marinas are located near the mouth of New River Inlet: Paradise Landing, Swan Point Marina, New River Marina, Sea Haven Marina, and Old Ferry Marina. All of which provide boat slips and dockage. Paradise Landing provides boat and personal watercraft rentals, and charter fishing. Seaview Pier provides local fishing just south of the New River Inlet." Recent changes in ownership and management plans for these have resulted in closure of at least one of the public/pay-for-use ramps and the exclusion of the general public from use of others. We recommend that, as a part of mitigation, additional public boating access and vehicle parking be provided by the applicant.

5.3.1, pg 77: "Rhode" should be "Rohde" and elsewhere in the document.

5.17 (p 137) – There are several "positive environment impacts" listed under the Applicant's preferred alternative that are inaccurate. These are 1) the restoration of the north end of North Topsail oceanfront shoreline, 2) the relatively rapid recovery of biological community due to the highly compatible nature of the inlet, and offshore borrow material, and 3) prevention of disturbance to nearshore and offshore hardbottom habitats. These should not be listed as positive impacts of Alternative 3. The north end of Topsail is not in need of environmental restoration. Without nourishment, the inlet would be allowed to migrate and the island would overwash during natural storm events. These would both have positive environmental impacts. Prevention of these natural processes has negative impacts as previously described. The second and third impacts listed above are not "positive" impacts of the project; rather they are methods to try to reduce the negative impacts of the project.

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We appreciate the opportunity to review and comment on this project during the early stages of development. If you have further questions or comments, please contact me at (910) 796-7217.

cc: Sue Cameron, NCWRC
Dr. Matthew Godfrey, NCWRC
Doug Huggett, NCDCM

North Carolina Wildlife Resources Commission

Richard B. Hamilton, Executive Director

Southeastern Permit Coordinator
127 Cardinal Drive Ext.
Wilmington, NC 28405

June 15, 2005

Mickey T. Sugg
Wilmington District USACE
P. O. Box 1890
Wilmington, NC 28402-1890

Dear Mr. Sugg,

Biologists with the North Carolina Wildlife Resources Commission (NCWRC) attended the June 8, 2005 EIS scoping meeting for the New River Inlet relocation and North Topsail Beach shoreline protection project and are familiar with wildlife resources in the area. Our comments are provided in accordance with provisions of the Coastal Area Management Act (G.S. 113A-100 through 113A-128), as amended, the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et. seq.), the Clean Water Act of 1977 (as amended) and the North Carolina Environmental Policy Act (G.S. 113A-1 et seq., as amended; 1 NCAC-25).

North Topsail Beach proposes to conduct dredging in New River Inlet and nourish approximately eight miles of beach within the CBRA zone. Several representatives from NCWRC attended the January 2005 project presentation and previously provided the following concerns with the project and its possible adverse effects to wildlife resources:

Waterbirds

- The relocation and maintenance of the New River Inlet channel in a relatively fixed position can negatively impact waterbird habitat at New River Inlet.
- The initial channel relocation will have uncertain effects to the existing intertidal and supratidal habitats in the area.
- The channel relocation may also have adverse effects to the spits on Onslow Beach as well as the area at North Topsail.
- The use of the inlet as a sand source may decrease the amount of intertidal and supratidal habitat.
- The frequency of these nourishment events and their potential cumulative impacts will have an effect on invertebrate populations and, ultimately, foraging shorebirds.
- The renourishment portion of this project has the potential to impact hard bottom habitat off Topsail Island.

Mailing Address: Division of Inland Fisheries • 1721 Mail Service Center • Raleigh, NC 27699-1721
Telephone: (919) 733-3633 • **Fax:** (919) 715-7643

- Nourishing the north end of Topsail may contribute to more development within the CBRA zone, therefore increasing the cost of storm damage in the future.

- The placement of dredged material on nearby islands creates early successional habitat needed by many nesting waterbirds. NCWRC is concerned the project will decrease the possibilities of these islands receiving sand, therefore reducing habitat for the nesting waterbirds.

- All work should be conducted outside the beach nesting birds moratorium (April 1 – August 31).

Sea Turtles

- The nourishment cycle proposed by the project may have great cumulative effects on sea turtle reproduction.

- The nourished material may have significant impact on the sex ratio of turtle hatchlings being produced.

- All work should be conducted outside the sea turtle moratorium (May 1 – November 15).

Additional Comments From to the EIS Scoping Meeting

- The EIS should address the pre-project historical use of the impacted areas by nesting birds and sea turtles and, based on recently conducted nourishment projects' post-project monitoring, the effects of the project on these resources.

- Post-project monitoring programs that evaluate the impacts on nesting birds and sea turtles should be required.

- Pre- and post-project monitoring of foraging shorebirds should be accomplished to determine the effect on foraging habitat.

- Some limitations should be placed on what determines how "consistent" the materials of the sand source are with the materials in place currently in the deposition areas.

The Commission appreciates the opportunity to review and comment on this project during the early stages of development and will provide more detailed comments as the project progresses. If you have further questions or comments, please contact me at (910) 796-7436.

Sincerely,

Steven H. Everhart, PhD, CWB

cc: Cameron, S. – NC Wildlife Resources Commission
Godfrey, M. – NC Wildlife Resources Commission
Huggett, D. – NC Division of Coastal Management

From: Susan Cameron [camerons@coastalnet.com]
Sent: Tuesday, July 24, 2007 10:17 AM
To: Adrienne Carter
Subject: n topsail

Follow Up Flag: Follow up
Flag Status: Yellow

Attachments: Pipingploversightings.xls

Adrienne,
We only visited the north end of Topsail Beach on two occasions in 2006 (1/28/06 and 6/2/06) and both time found 0 piping plovers. Since it was not a complete survey year, we didn't survey for other nesters during the summer of 06 although there were definitely Wilson's plovers and willets nesting.

Also, I attached a file I received from folks at Camp Lejeune with 2005/2006 piping plover sightings. I have a technician entering this data now, so it's not all in our database, but thought I'd pass along what I received from them.

Let me know if you have additional questions.

Best,
Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

From: Susan Cameron [camerons@coastalnet.com]
Sent: Friday, October 26, 2007 3:48 PM
To: Dawn York
Subject: FW: North Topsail Beach Draft Bird Monitoring Plan

Hi Dawn,
Here is the meat of what we discussed on the phone. Otherwise the plan looks good.

1) regarding your question of frequency during the winter months…I recommend one survey at high tide and one at low tide (i.e. six survey days)
2) for transect #5 – you might have to survey this from Onslow Beach with a scope as it will be very difficult to get to by boat
3) regarding frequency of gps data collection – may not have to do every month, but need to do frequently enough to capture changes in size of transects

Best,
Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Dawn York [mailto:Dyork@coastalplanning.net]
Sent: Wednesday, October 24, 2007 1:34 PM
To: camerons@coastalnet.com
Subject: North Topsail Beach Draft Bird Monitoring Plan

Hi Sue, as we discussed on the phone, I have attached the November 2006 Bird Monitoring Plan as it is shown in the Preliminary Draft EIS. Please review with focus on the survey frequencies and bird transect areas. We would like to be able to incorporate your comments prior to the release of the Draft EIS, which is scheduled for next week.

I have also attached a draft bird monitoring schedule that lists all surveys for pre-con monitoring. I am waiting on a response from Mickey regarding the field schedule for November 9th and will pass on details as soon as possible.

Thank you, I appreciate your time.

Dawn

Dawn M. York, M.S.
Coastal Biologist

Coastal Planning & Engineering of North Carolina, Inc.
330 Shipyard Blvd.
Wilmington, NC 28412
Office: 910.791.9494
Fax: 910.791.4129
www.coastalplanning.net

From: Susan Cameron [camerons@coastalnet.com]
Sent: Tuesday, July 18, 2006 3:32 PM
To: Erin Hague
Subject: RE: North Topsail - Bufferzone Analysis

Thanks Erin. Obviously, I missed the meeting. Hope it was a good one. Please keep me posted on the on the bird monitoring plan.

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Monday, July 17, 2006 7:53 PM
To: Susan Cameron
Subject: RE: North Topsail - Bufferzone Analysis

Hi Sue:
I plan to briefly discuss the coordination efforts with the Marine Corps for bird monitoring. I drafted a bird monitoring plan similar to the Bogue plan but included low and high tide observations. I sent a copy of the plan to the Marine Corps to review and requested their assistance in data collection. Unfortunately their response was that they are unable to assist with any of the field efforts, but indicated that they will forward the PP data collected under their INMRP and allow access to Onslow Beach. I'm unsure of how helpful their data will be, but it may be used as supporting data for PPs observed outside of our planned monitoring events. Without their assistance, we will need to take another look at the plan to see if there is any way to streamline some of the collection field efforts.

Unless there is additional feeback from the Marine Corps during the PDT meeting, I'd expect that future coordination with the plan development will be via email and will directly involve you, as well as Mickey and Howard Hall.

-Erin

From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Mon 7/17/2006 2:42 PM
To: Erin Hague
Subject: RE: North Topsail - Bufferzone Analysis

Hi Erin,
I'm not sure that I can make the meeting tomorrow, but I'd like to try to make at least a portion of it.

Will waterbird issues be discussed at all? Thanks and hope you're well.

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Monday, July 17, 2006 12:51 PM
To: Sugg, Mickey T SAW; Alderman Richard Farley; Alderman Richard Peters ; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; Dick MaCartney; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle_Duval@environmentaldefense.org; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL.; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas Blount; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: sheliac@north-topsail-beach.org; lorainec@north-topsail-beach.org; Tom Jarrett; Craig Kruempel
Subject: North Topsail - Bufferzone Analysis

Good Afternoon:
Please review the attached report which provides the rationale for the proposed 400 foot bufferzone for activities occurring near hardbottom habitats. The bufferzone issue will be discussed during tomorrow's PDT meeting. Please let me know if you have any questions.
Thank you
Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33433
(P) 561.391.8102
(F) 561.391.9116
(C) 561.239.3701
www.coastalplanning.net

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From: Susan Cameron [camerons@coastalnet.com]
Sent: Monday, August 22, 2005 3:19 PM
To: Erin Hague
Cc: 'Sugg, Mickey T SAW'
Subject: colonial waterbird and shorebird data for N. Topsail/Onslow Beach

Follow Up Flag: Follow up
Flag Status: Red

Attachments: qryShorebirdObsNewRiverInlet.xls; rptCWBNewRiverInletBI.rtf; rptCWBNewRiverInletIsl.rtf; CampLejeuneCBCAllYears.xls

Hi Erin,
I've attached all of the waterbird information we have for North Topsail and Onslow Beach. I've also included information from the state owned dredge islands in New River Inlet.

The shorebird information, including piping plovers, is in Excel format.
Please remember that much of the shorebird data was collected piecemeal and obviously is open to misinterpretation. The breeding data is more complete than the non-breeding data as we have been conducting regular breeding surveys for piping plovers since 1989. We also conducted the first coast-wide survey for American oystercatchers and Wilson's plovers in 2004.
The data for non-breeding piping plovers is generally more opportunistic in nature. I have included piping plover data that Camp Lejeune has sent to me for inclusion in our database although they likely have more recent data (the last observation they sent me was from summer 2004).

You should be able to open the colonial waterbird data in Word. New Chadwick Bay Inlet is an overwash on the soundside of the road on North Topsail Beach. It was not used by colonial waterbirds in 2003 and I think someone has since build houses on it. The colonial waterbird data has been collected consistently since 1977 with coast-wide surveys being conducted every 2-3 years.

Finally, I've included results from Christmas Bird Counts on Lejeune, which show good numbers of loons and gannets utilizing offshore habitat. The column with observers SC and JC covered Onslow Beach, so most of the waterbirds in this column were observed on the beach.

One final note, while the inlet area on North Topsail Beach receives only a small amount of nesting, the large sandflats are used heavily by migrating and wintering shorebirds. In recent years it has become a popular spot for OVRs including ATVs and bird use appears to have declined. In addition, the marsh behind this site has wintering sharp-tailed sparrows and nesting seaside sparrows (both species of conservation concern).

Feel free to call me if you have any questions or need more information.

Sue Cameron
North Carolina Wildlife Resources Commission Waterbird Biologist
253 White Oak Bluff Road
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

From: Susan Cameron [camerons@coastalnet.com]
Sent: Thursday, October 12, 2006 1:02 PM
To: Erin Hague
Subject: RE: Bird Monitoring Plan

Thanks Erin. I can't seem to remember our discussions about invert monitoring. I missed a couple of meetings, so perhaps it was during one of these. I'm not convinced we should dismiss invert monitoring so quickly. While quite a bit of research has been done on macroinverts on the ocean front, as far as I know, very little has been done on inverts near the inlets. I know very little data was collected during the Masons Inlet project and I'll have to look back to see what was required for Bogue. At any rate, I think it deserves a bit more discussion at the next PDT since this is such a large project with potential mining of the inlet on a four year cycle. I'd be interested to know how the other resource agencies feel about this.

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Thursday, October 12, 2006 12:33 PM
To: Susan Cameron
Subject: RE: Bird Monitoring Plan

Sue:
The changes are being made to the plan. I have put a call into Scott Brewer at the USMC with regards to access to the flats on the back side of Onslow Beach. The graphic will be revised once we receive approval. The addition to the borrow area is still being finalized, therefore Figure 1 is also being delayed prior to inserting into the plan. I expect that the updates in the plan will be completed by tomorrow or Monday and will be distributed without the graphics.

There have been a few discussions about invert monitoring during the PDT. However requirements for monitoring have been dismissed.

Please let me know if you have any additional questions.
Thanks
Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33433
(P) 561.391.8102
(F) 561.391.9116

(C) 561.239.3701
www.coastalplanning.net

From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Monday, October 09, 2006 4:45 PM
To: Erin Hague
Subject: FW: Bird Monitoring Plan

Oops…see attached

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Susan Cameron [mailto:camerons@coastalnet.com]
Sent: Monday, October 09, 2006 4:43 PM
To: 'Erin Hague'
Subject: RE: Bird Monitoring Plan

Hi Erin,
I've included minor comments in addition to what was discussed at last week's meeting on the attached copy. Feel free to ask folks at CZR what they think of the plan and let me know if they have any concerns. Let me know if you have any questions.

Also, has there been any discussion of invert monitoring?

Thanks.

Sue Cameron
North Carolina Wildlife Resources Commission
Waterbird Biologist
253 White Oak Bluff Rd.
Stella, NC 28582
910-325-3602
camerons@coastalnet.com

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Monday, September 25, 2006 2:30 PM
To: Sugg, Mickey T SAW; Alderman Richard Farley; Alderman Richard Peters ; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; Dick MaCartney; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.

gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle_Duval@environmentaldefense.org; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL.; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas Blount; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: Tom Jarrett; lorainec@north-topsail-beach.org; sheliac@north-topsail-beach.org
Subject: RE: Cancellation for tomorrow's PDT mtg.

Good Afternoon:
The Draft Bird Monitoring Plan is attached for your review. Please send all questions and comments regarding the plan to me and Mickey.
-Erin

Erin A. Hague
Sr. Marine Scientist
CPE Marine Science & Biological Research Dept.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33433
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(F) 561.391.9116
(C) 561.239.3701
www.coastalplanning.net

From: Sugg, Mickey T SAW [mailto:Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Monday, September 25, 2006 1:33 PM
To: Alderman Richard Farley; Alderman Richard Peters ; allend@coastalnet.com; anne.deaton@ncmail.net; Becky Bowman (Beach Nourishment Chairman); Becky Fox; beth_purcell@co.onslow.nc.us; Brodmerkel, Jan P SAW; camerons@coastalnet.com; david_rabon@fws.gov; Dick MaCartney; doug.huggett@ncmail.net; Frank Clifton, Onslow Co. Mgr.; fritz.rohde@ncmail.net; godfreym@coastalnet.com; Harris, Keith A SAW; harry.simmons@ncbiwa.org; howard_hall@fws.gov; jim.gregson@ncmail.net; jon.giles@ncmail.net; Justin McCorcle; larry.eaton@ncmail.net; Livermore, Raymond R SAW; maria.tripp@ncwildlife.org; Michelle_Duval@environmentaldefense.org; Mike Giles (Cape Fear Coastkeeper); Mike.Street@ncmail.net; noelle.lutheran@ncmail.net; Owens, Jennifer L SAW; Piatkowski, Douglas SAW; ron.sechler@noaa.gov; scott.a.brewer@USMC.MIL.; Senator Harry Brown; Shaver, Brad E SAW; Steve Everhart; Ted Wilgis; Thomas Blount; toddm@nccoast.org; Tom Barbee; Trish.Murphey@ncmail.net; Varnam, Ralph H SAW; wrknowles@hotmail.com; Yelverton, Frank SAW
Cc: Erin Hague; Tom Jarrett; lorainec@north-topsail-beach.org; sheliac@north-topsail-beach.org
Subject: Cancellation for tomorrow's PDT mtg.

To all-
Tomorrow's meeting has been cancelled due to Erin being ill and unable to fly. We are working on rescheduling for next Tues/Wed. (3rd/4th), and it's leaning more toward Tuesday.

I apologize for this inconvenience in your scheduling and the short timeframe to reschedule. If the meeting is not held next week, the next earliest date would be the end of October. If anyone is unable to attend next week, please provide me with any comments on the buffer analysis and I can relay them to the team. Also, it's my understanding that the bird monitoring plan will be sent out this week and will be discussed during the meeting.

Call or reply if you have any questions,
-Mickey

Corps of Engineers
PO Box 1890
Wilmington, NC 28402
Office, (910) 251-4811
Fax, (910) 251-4025

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
PO BOX 1890
WILMINGTON NC 28402-1890

February 13, 2008

Regulatory Division

Action ID No. 2005-344-067

Ms. Renee Gledhill-Earley
N.C. Department of Cultural Resources
State Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

Dear Ms. Gledhill-Earley:

Please reference the Town of North Topsail Beach's proposal to pursue Department of the Army authorization for nourishing approximately 11.1 miles of North Topsail Beach using material from offshore borrow site(s) and from the New River Inlet as part of a comprehensive inlet management plan. The project site, known as North Topsail Beach Shoreline Protection Project, is located along the entire boundary of North Topsail Beach, in Onslow County, North Carolina.

The Town has employed Tidewater Atlantic Research, Inc. to conduct remote sensing surveys in concentrated areas, within the permit area, where the project dredging will take place. Enclosed is one copy of the survey report that focuses on the offshore borrow site and one copy containing survey results of the inlet complex; both contain CDs in the back cover. Upon review of the information, we have determined that the proposed project will have no effect on cultural resources within the permit area. In order to comply with Section 106 of the National Historic Preservation Act and to satisfy Federal NEPA requirements, we are requesting that you review the enclosed document and provide your recommendations and comments within 30 days from the receipt of this letter.

Please note that a permit application has not been submitted to the State's or our office at this time. The Town is currently preparing a Federal Environmental Impact Statement, which will be circulated to your office through the State Clearinghouse protocol.

Thank you for your attention to this matter. Should you have any questions, please contact me at (910) 251-4636.

Sincerely,

Mickey Sugg, Project Manager
Wilmington Regulatory Field Office

Copies Furnished:

Mr. Doug Huggett
Division of Coastal Management
N.C. Department of Environment
and Natural Resources
400 Commerce Avenue
Morehead City, North Carolina 28557-3421

Mr. Craig Kruempel
Coastal Planning and Engineering
2481 N.W. Boca Raton Boulevard
Boca Raton, Florida 33431

Ms. Dawn York
Coastal Planning and Engineering
330 Shipyard Boulevard
Wilmington, North Carolina 28412

Ms. Shelia Cox
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

Mr. Tom Taylor, Interim Town Manager
Town of North Topsail Beach
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

From: Suzanne Mason [suzanne.mason@ncmail.net]
Sent: Monday, July 30, 2007 10:07 AM
To: Dawn York
Subject: Re: Natural Heritage SNHA definitions

Dawn,

Yes, that is the most current shape and location. The information we have in our database is as follows:
"[Site] is a rough ellipse whose long axis is contained within
coordinates (34 degrees 29' 34" N latitude, 77 degrees 23 '44" W longitude) and
(34 degrees 28' 48" N latitude, 77degrees 21' 13" W longitude) and with an area of approximately 1300 acres.
The coordinates and acreage were provided by Jim Francesconi of the NC Divison of Marine Fisheries."

~Suzanne

Dawn York wrote:
> Thank you for the definitions.
> Please see attached map and verify locations/shape of SNHA for the
> North Topsail Beach Shoreline Protection Project. I am most interested
> in the offshore polygon (3). Please note that this is a draft map and
> is for in-house review only. If you would like a similar map I can
> send a final version after the DEIS is published.
>
> Thank you for your help,
> Dawn
>
>
>
> Dawn M. York, M.S.
> Coastal Biologist
> CPE Marine Science & Biological Research Dept.
> 330 Shipyard Blvd.
> Wilmington, NC 28412
> (O & F) 910.791.9494
> www.coastalplanning.net
> -----Original Message-----
> From: Suzanne Mason [mailto:suzanne.mason@ncmail.net]
> Sent: Monday, July 30, 2007 9:45 AM
> To: Dawn York
> Subject: Natural Heritage SNHA definitions
>
> See attached pdf.
>
>

--
Suzanne Mason, Environmental Biologist
North Carolina Natural Heritage Program
Phone: (919) 715-8703
Email: suzanne.mason@ncmail.net
Website: www.ncnhp.org

Mailing Address:
MSC 1601
Raleigh, NC 27699-1601

Physical Address:
4th Floor, Archdale Building
512 N. Salisbury St.
Raleigh, NC 27604

From: Syd Wiford [cwiford@mindspring.com]
Sent: Wednesday, August 15, 2007 9:04 AM
To: Tom Jarrett; 'Gene Falco'
Cc: 'George Vann'; 'Shelia Cox'; Doug Mann; Dawn York; Ken Willson; Chris Day
Subject: RE: gene falco concern for 2387 and 2389 new river inlet rd

Thank you for the additional info. Mr. Jarrett. I have similar concerns to Mr. Falco's and have observed the movement of the inlet as well as the erosion and disappearing property which has occurred each time the Corp has dredged the inlet. I appreciate you listening to our concerns and remaining open to rethinking the plan to insure that our properties do not incur further damage as we all attempt to repair and stabilize the current situation.
Cynthia Wiford
2368 New River Inlet road
NTB

From: Tom Jarrett [mailto:Tjarrett@coastalplanning.net]
Sent: Wednesday, August 15, 2007 8:54 AM
To: Gene Falco
Cc: NRBC neighbor; George Vann; Shelia Cox; Doug Mann; Dawn York; Ken Willson; Chris Day
Subject: RE: gene falco concern for 2387 and 2389 new river inlet rd

Gene,
First of all, thanks for the photos.

Your summary of our conversation is right on. I appreciate your willingness to work with us to reach a compromise that all can agree to .

With regard to the channel design, it will begin in the inlet throat where existing depths equal -17 feet. The bottom width of the channel at this point will be the minimum width for the dredge which is around 150 feet. From this starting point (which will probably be slightly seaward of your property) the channel width will gradually flare to its full width of 500 feet. The length of the flare or transition section will be around 1,000 feet. Note that at present we were only using a 100-foot transition, however, in order to relieve your concerns, we can extend the transition section without significantly compromizing the volume of material to be removed.

The final details of the channel cannont be developed until the time of construction due to the frequent changes in the inlet configuration, but we develope the plan keeping your concerns and wishes in mind.

Tom

-----Original Message-----
From: Gene Falco [mailto:genefalco@earthlink.net]
Sent: Tue 8/14/2007 5:15 PM
To: Tom Jarrett
Cc: NRBC neighbor; George Vann; Shelia Cox
Subject: gene falco concern for 2387 and 2389 new river inlet rd

Dear Mr. Jarrett, CPE Topsail project manager 264-2166,

I'm feeling much better after our conversation today. Please agree, or disagree by e-mail to these points I recall from our conversation:

1. The dredging will not cause erosion to the coastline if done properly.

2. An ocean dredge with a minimum 17 foot depth capacity will be used. The dredging process will start from the land side of the work area, and work seaward.

3. The depth of the existing channel, slope of the existing channel and the shape of the existing channel will be followed at the beginning point, flaring gradually according to CPE testing until you reach the desired desired depth, and width. After which, the dredge will proceed according to the maximum desired depth and width.

4. You acknowledged the need for extra caution at the beginning point nearest the coastline, especially since no renourishment will take place on the coastline in front of the properties nearest the channel. My properties, 2389 New River Inlet Road (approximately .8 acres) and 2387 New River Inlet Road (approximately 2.5 acres) are among those properties nearest the channel. With this caution in mind we discussed moving the starting point of the dredging process 500 feet seaward. You said that would not significantly jeopardize the project.

5. The dredging process is expected to repeat at four-year intervals, each time mindful of the above.

Tom, once again, thank you for your help so far. Spencer Rogers spoke highly of you, and I'm counting on CPE to be sensitive to my concerns.

Always by faith, Gene Falco

1973 New River Inlet Road

North Topsail Beach, N. C. 28460

910 328-0202

PS: please find enclosed the aerial photos from Spencer Rogers of Seagrant

From: Barbee CIV Thomas H [thomas.barbee@usmc.mil]
Sent: Friday, July 08, 2005 12:45 PM
To: Erin Hague
Cc: Tom Jarrett
Subject: RE: North Topsail Beach Environmental Investigation Plan

Thanks, Erin !

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Friday, July 08, 2005 12:37
To: Barbee CIV Thomas H
Cc: Tom Jarrett
Subject: RE: North Topsail Beach Environmental Investigation Plan

Tom:
In most cases, sand material is placed above and below the mean high tide line and sometimes as high as the dune vegetation line. However each beach and the subsequent design is case dependent. Tom Jarrett will be able to provide more details on the elevation of the placement of material when he has finished with the design.

Erin A. Hague
Environmental Planner / Marine Biologist
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Blvd.
Boca Raton, FL 33431
(Ph) 561-391-8102 Ext.132
(Fax) 561-391-9116
(Cell) 561-239-3701
Email: ehague@coastalplanning.net
Webpage: http:\\www.coastalplanning.net

From: Barbee CIV Thomas H [mailto:thomas.barbee@usmc.mil]
Sent: Friday, July 08, 2005 12:04 PM
To: Erin Hague
Subject: RE: North Topsail Beach Environmental Investigation Plan

Erin,
Thanks for forwarding the plan. When the material is placed onto the Onslow Beach, would it be applied above the mean high tide line or below, or both?
Thanks for your reply.
RS,
Tom

-----Original Message-----
From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Friday, July 08, 2005 9:21
To: douglas.piatkowski@saw02.usace.army.mil; james.francesconi@ncmail.net; jon.giles@ncmail.net; Mike.Street@ncmail.net; Noelle.lutheran@ncmail.net; camerons@coastalnet.com; wrknowles@hotmail.com; howard_hall@fws.gov; stevewalter@charter.net; b_bowman@charter.net; hgodwin@charter.net; Steve.Everhart@ncwildlife.org; Barbee CIV Thomas H; harry.simmons@ncbiwa.org
Cc: Craig Kruempel
Subject: FW: North Topsail Beach Environmental Investigation Plan

To All:
Attached you will find the Marine Resources Investigation Plan as discussed in yesterday's PDT meeting. Please contact me or Craig if you have any questions regarding this plan. Thank you.

Erin A. Hague
Environmental Planner / Marine Biologist
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Blvd.
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(Ph) 561-391-8102 Ext.132
(Fax) 561-391-9116
(Cell) 561-239-3701
Email: ehague@coastalplanning.net
Webpage: http:\\www.coastalplanning.net

From: Craig Kruempel
Sent: Monday, June 20, 2005 6:23 PM
To: Mickey Sugg; Ron Sechler; Jim Gregson (E-mail); Jon Giles (E-mail); Fritz Rohde (E-mail); Anne Deaton (E-mail)
Cc: Thomas M. Cassell (tomc@north-topsail-beach.org); Shelia H. Cox (sheliac@north-topsail-beach.org); Keith Harris (keith.a.harris@saw02.usace.army.mil); Erin Hague; Jeff Andrews; Tom Jarrett; Tracie McCauley
Subject: North Topsail Beach Environmental Investigation Plan

To all:

Please find attached the North Topsail Beach Marine Resource Investigation Plan CPE will utilize to evaluate and characterize marine resources within and adjacent to the project fill and borrow sites.

Please note that we are still in the process of evaluating the remotely sensed geotechnical data, and our field investigations (vibracores) are scheduled to occur in the near future. Therefore, our environmental investigations of marine resources adjacent to the potential borrow site(s) have been presented as preliminary locations

in this document. The vibracore acquisition program will allow us to better delineate the sand resources, and identify those significant marine resources within the zone of potential affect. At this time, and based on state and federal agency coordination on similar projects, it is our intent to characterize those hardbottom resources within 1000 feet of the proposed borrow site.

Erin and the crew mobilized to North Topsail Beach yesterday. Due to adverse wind and wave conditions within the project area, they are performing a field check of equipment and other coordination efforts today. The forecast calls for moderating winds and sea conditions tomorrow, so hopefully, they will be able to commence investigations starting in the morning. As an added coordination effort, Camp Lejeune has scheduled some previously unanticipated operations along Onslow beach for later in the week, so our priorities have shifted to allow for completion of our work in that area, before they start their exercises.

If you have any questions regarding our investigation plan, please feel free to contact me via e-mail or telephone.

Thanks.

Craig J. Kruempel
Vice President - Environmental Studies
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Boulevard
Boca Raton, FL 33431
Telephone: (561) 391-8102 ext. 119
Fax: (561) 391-9116
E-mail: ckruempel@coastalplanning.net
Website: http://www.coastalplanning.net

From: Blount, Thomas A SAW [Thomas.A.Blount@saw02.usace.army.mil]
Sent: Tuesday, July 31, 2007 4:22 PM
To: Dawn York
Cc: Piatkowski, Douglas SAW; Blount, Thomas A SAW
Subject: RE: NTB and SC Federal Project

Dawn:

Sorry for the late reply.

I would say that 2012 is still an anticipated construction date - of course it depends on the project being authorized by Congress and then funds being appropriated, but it is possible.

Initial construction costs at Jan 2005 price levels:
Initial construction inc construction mgmt: $70,334,000
Federal portion 65%: $45,717,100
Non-federal portion 35%: $24,616,900
Of the non-federal portion - pro-rated based on length of project per town - the method of cost-share will be determined later when the PCA is signed with the towns
N. Topsail portion (38%): $9,354,422
Surf City portion (62%): $15,262,478

Renourishment costs (every 4 years) at Jan 2005 price levels:
Each renourishment cost: $11,109,000
Federal portion 65%: $7,220,850
Non-federal portion 35%: $3,888,150
Of the non-federal portion - pro-rated based on length of project per town - the method of cost-share will be determined later when the PCA is signed with the towns
N. Topsail portion (38%): $1,477,497
Surf City portion (62%): $2,410,653

So....total cost for N. Topsail Beach at Jan. 2005 prices
$9,354,422+12*($1,477,497)= **$27,100,000** (rounded)
This covers initial construction and 12 renourishments through year 2060.

Hope this isn't too confusing. Let me know if you have any questions.

Thomas A. Blount
US Army Corps of Engineers, Wilmington District
910-251-4029
thomas.a.blount@us.army.mil

From: Dawn York [mailto:Dyork@coastalplanning.net]

Sent: Thursday, July 19, 2007 5:25 PM
To: Piatkowski, Douglas SAW; Blount, Thomas A SAW
Cc: Tom Jarrett
Subject: NTB and SC Federal Project

Doug and/or Thomas: could you please review the following paragraph and confirm its accuracy. The information was based on the August 2006 AFB feasibility report for the federal project. Could you please verify anticipated construction date? Also, do you have an estimated cost of just the NTB construction rather than the total cost for the whole project? Please let me know if additional information should be included to complete the project summary.

Thank you,
Dawn

RELATED ACTIONS

The following is a summary of activities that have or potentially could have an impact on New River Inlet and the oceanfront shoreline of Topsail Island.

(a) The Corps of Engineers – Wilmington District is conducting a Federal feasibility study for storm damage reduction and shoreline protection for a 50-year period of analysis along the southern 3.85 miles of oceanfront North Topsail Beach. The Surf City and North Topsail Beach Shore Protection Project Feasibility Report (USACE 2006) discloses that the most practicable plan of protection is a berm and dune project extending from the southern edge of the Coastal Barrier Resources System (CBRS) (Topsail Unit, L06). The tentatively selected National Economic Development Plan (NED) consists of a sand dune constructed to an elevation of 15 feet above the National Geodetic Vertical Datum (NGVD), fronted by a 50-foot wide beach berm constructed to an elevation of 7 feet above NGVD. Renourishment will occur on a 4-year cycle. If protection of this area is found to be in the Federal interest, the project could be implemented as early as 2012. Given current Federal budget priorities, however, construction of the Federal project will likely occur later than 2012.

Dawn M. York, M.S.
Coastal Biologist
CPE Marine Science & Biological Research Dept.
330 Shipyard Blvd.
Wilmington, NC 28412
(O & F) 910.791.9494
www.coastalplanning.net

From: Tom Jarrett
Sent: Tuesday, October 31, 2006 9:08 AM
To: Sugg, Mickey T SAW; Erin Hague
Cc: doug.huggett@ncmail.net
Subject: RE: Ownership of Lands

Mickey,
I think it is fairly clear, based on the AG opinion on Bogue Inlet, that the inlet shoreline is not treated like the ocean shoreline. Accordingly, any land that is created either directly or indirectly as a result of the project would revert to the upland (adjacent) property owner.
Tom

-----Original Message-----
From: Sugg, Mickey T SAW [mailto:Mickey.T.Sugg@saw02.usace.army.mil]
Sent: Mon 10/30/2006 9:57 AM
To: Erin Hague
Cc: Tom Jarrett; doug.huggett@ncmail.net
Subject: RE: Ownership of Lands

Erin-

No letter has been sent, and I had not planned to send one out. I think the only question was if DCM regards the inlet shoreline the same as the ocean shoreline as it relates to ownership. I will be referencing the same response letter that was sent to us for the Bogue Project.

-Mickey

From: Erin Hague [mailto:Ehague@coastalplanning.net]
Sent: Wednesday, October 25, 2006 1:01 PM
To: Sugg, Mickey T SAW
Cc: Tom Jarrett

Subject: Ownership of Lands

Mickey:

I was reviewing the issues and concerns addressed over the course of the NTB project meetings and found a note relating to ownership of lands on the inlet side. My notes indicate that the State rules for accretion along the beach front only apply to the oceanfront shoreline. Has a letter been sent to the Attorney General to inquire about ownership of land along the inlet shoreline?

Thanks

Erin

Erin A. Hague

Sr. Marine Scientist

CPE Marine Science & Biological Research Dept.

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APPENDIX A – SUBPART 3

Notice of Intent and Public Notices

[Federal Register: May 19, 2005 (Volume 70, Number 96)]
[Notices]
[Page 28924-28926]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr19my05-56]

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Intent to Prepare a Draft Environmental Impact Statement (DEIS) for the Nourishment of 7.25 Miles of Beach, the Repositioning of the New River Inlet Channel, and the Implementation of an Inlet Management Plan, in North Topsail Beach, Onslow County, NC

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of intent.

SUMMARY: The U.S. Army Corps of Engineers (COE), Wilmington District, Wilmington Regulatory Field Office has received a request for Department of the Army authorization, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbor Act, from the Town of North Topsail Beach to nourish approximately 7.25 miles of beachfront to protect residential homes and town infrastructures, and to implement an inlet management plan with the New River Inlet to control the positioning of the inlet channel. The new channel will be centrally located perpendicular to the adjacent shorelines of North Topsail Beach and Onslow Beach. The proposed source of the material for the nourishment will be dredged from offshore borrow area(s) and from the repositioning of the inlet. The placement of beach fill along the Town's shoreline would result in the initial widening of the beach by 50 to 100 feet. The widened beach would be maintained through a program of undefined periodic beach nourishment events with the material extracted primarily from the New River Inlet.

The ocean shoreline in the Town of North Topsail Beach encompasses approximately 11.1 miles along the northern end of Topsail Island. Currently, the U.S. Army Corps of Engineers is developing a Federal shoreline protection plan for parts of North Topsail Beach. This Federal plan will only cover 3.85 miles of the southern part of the beach. The remaining 7.25-miles of North Topsail Beach, with the exception of two small areas, is located within the Coastal Barrier Resource System (CBRS), which prohibits the expenditure of Federal funds that would encourage development. Therefore, the Town is pursuing to develop this non-Federal shoreline protection plan that will preserve existing development and infrastructure along the 7.25 miles of shoreline.

The channel through New River Inlet has been maintained by the COE for commercial and recreational boating interest for over 55 years. The COE is authorized to maintain the channel in the inlet to a depth of 6 feet mean low water (mlw) over a width of 90 feet.

DATES: A public scoping meeting for the Draft EIS will be held at Dixon High School located on Highway 17, on June 7, 2005 at 6 p.m. Written comments will be received until June 21, 2005.

ADDRESSES: Copies of comments and questions regarding scoping of the Draft EIS may be addressed to: U.S. Army Corps of Engineers, Wilmington District, Regulatory Division, ATTN: File Number 200500344, Post Office Box 1890, Wilmington, NC 28402-1890.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed action and DEIS can be directed to Mr. Mickey Sugg, Wilmington Regulatory Field Office, telephone: (910) 251-4811.

SUPPLEMENTARY INFORMATION: 1. Project Description. The Town of North Topsail

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Beach, located along the north-northeast 11.1 miles of Topsail Island, North Carolina, is proposing to nourish approximately 7.25 miles of beach and reposition New River Inlet channel as a means to address a severe erosion problem that is threatening development and town infrastructure. The entire stretch of the Town's shoreline has experienced a considerable amount of erosion over the last 20 years due primarily to the impact of numerous tropical storms and hurricane during the mid to late 1990's and due to impacts of the uncontrolled movement of the main ebb channel in New River Inlet. The Town has stated that the shoreline erosion and residual effects of the storms have left North Topsail Beach in an extremely vulnerable position with regard to its ocean front development and infrastructure. They have estimated that over $250 million in property tax value as well as roads, water and sewer lines, and other utilities are at risk.

The project area is divided into the North Section and the Central Section

(Note: The South Section is part of the Federal shoreline protection plan). The North Section is further divided into two parts. One comprises approximately 5,800 linear feet, or 1.1 mile, of the project and is located along the northern end of the island. This area will receive material solely from the dredging of the New River Inlet when the channel is repositioned and realigned through the ebb tide delta. The new channel is expected to result in widening of the north of the Town's shoreline as the shoreline responds to the ebb tide delta configuration that would accompany the relocated channel. In addition to the placement of the material in the North Section, a portion of the inlet material will be deposited on the southern end of Onslow Beach as part of the comprehensive inlet management plan in order to maintain the existing sediment budget on Onslow Beach. The second part of the North Section is approximately 14,200 linear feet along the shoreline and will receive sand from the offshore borrow site(s). The Central Section is located both north and south of NC Hwy 210/55 Bridge and is approximately 16,500 linear feet. Material used to widened this section of the beach will also be obtained from the offshore borrow area(s).

2. Proposed Action. The scope of activities for the formulation of the shoreline protection and inlet management plans for the Town of North Topsail Beach includes: (a) Detailed geotechnical investigations to define potential offshore borrow site(s); (b) evaluation and design of a new channel for New River Inlet and the development of an inlet management plan; (c) design and evaluation of beach fill sections including an assessment of the potential impacts of the offshore borrow area(s) on sediment transport; (d) near shore and inlet habitat mapping; and (e) hard bottom investigations. All geospatial data collected for the North Topsail Beach project will be included in a GIS database developed for the project.

Potential offshore borrow areas, previously identified by work conducted by the Wilmington District Corps of Engineers, will be evaluated in detail using jet probes; seismic, sidescan, and magnetometer surveys; as well as vibracores. Samples of the offshore material collected form the jet probes and vibracores will be used to define the preliminary boundaries of the offshore borrow area(s) and make a preliminary determination of the compatibility of the borrow material to the native beach material. The boundaries of the potential borrow area(s) will take into consideration the location and extent of hard bottom resources identified by the sidescan and seismic surveys, as well as in-waters surveys. The boundaries of the proposed offshore borrow site(s) will also be refined to avoid historically significant archaeological artifacts located by the magnetometer surveys and verified through field investigations. Once the boundaries of the potential borrow area(s) are finalized, a final sediment compatibility analysis will be conducted.

The beach fill designs presented in the feasibility study will be refined by analyzing existing profiles to determine potential erosion and storm impacts on back beach features such as vegetation, structures, and infrastructure. Specific designs will be developed for up to five characteristic profiles for the Central and North Sections. Design variations will be considered at discrete beach sections where unique upland features require special accommodation. The composite nature of the final beach and inlet design will require a more complex sequencing in construction operations than normally required for renourishment projects. The method and order of operations will be determined in order to optimize constructability and reduce costs.

Beach planform performance will be evaluated based on the numerical modeling for the proposed projects. The GENESIS numerical model will be used in conjunction with a wave transformation model (STWAVE) to evaluate shoreline positions in time. The wave transformation model will be used to determine changes in wave patterns associated with the near shore borrow area(s). The state-of-the-art GENESIS version will be used so that the project area may be incorporated into a single simulation domain. The historical changes of the project area shoreline will be used to calibrate and verify the model, using an error minimization approach. Adjustments to the wave data used as input within the models will be made as required to replicate observed performance. The GENESIS model will be used to identify optimum alongshore fill placement.

A detailed geomorphic study of New River Inlet was accomplished during the feasibility phase of the project development. The geomorphic study used aerial photographs to evaluate changes in New River Inlet from 1962 and 2003 and develop relationships between the configuration of the New River Inlet ebb tide delta and the behavior of the shorelines on the north end of the North Topsail Beach and the south end of Onslow Beach. The geomorphic study concluded that the most desirable location and orientation of the channel through the ebb tide delta, in terms of impacts on the adjacent islands, is one located closer to North Topsail Beach and oriented essentially perpendicular to the general alignment of the adjacent shorelines. The feasibility phase of the project development also included a preliminary numerical model evaluation of the impact of the relocated channel of flows and flow distributions in the New River Inlet complex.

The next phase of the channel design will include additional numerical model evaluations of a wider range of channel alternatives (channel depths, widths, and locations) and will incorporate modifications in the configuration of the ebb tide delta expected to occur in response to the new channel. The reconfigured ebb tide delta will also be used to determine the potential changes in wave patterns

north and south of New River Inlet and the impacts these changes could have on longshore sediment transport and shoreline behavior.

The potential shoaling characteristics of the new channel will be evaluated using empirical shoaling algorithms developed for inlets in North Carolina. The propensity of the new channel to migrate to the north and/or south and possible future changes in the channel alignment will be based on observed changes in New River Inlet as documented by the geomorphic analysis. The potential changes in longshore sediment transport patterns on North Topsail Beach and Onslow

[[Page 28926]]

Beach associated changes in wave patterns together with the channel shoaling analysis will be used to develop a with-project sediment budget. The with-project sediment budget will be compared to the existing sediment budget to determine sand bypassing requirements that would be needed to maintain the existing sediment budget of the adjacent islands.

3. Issues. There are several potential environmental issues that will be addressed to the FIS. Additional issues may be identified during the scoping process. Issues initially identified as potentially significant include:

a. Potential impact to marine biological resources (benthic organisms, passageway for fish and other marine life) and Essential Fish Habitat, particularly Hard Bottoms.

b. Potential impact to threatened and endangered marine mammals, birds, fish, and plants.

c. Potential impacts to water quality.

d. Potential increase in erosion rates to adjacent Onslow Beach.

e. Potential effects on military training on U.S. Marine Corps Camp Lejeune Base.

f. Potential impacts to Navigation, commercial and recreational.

g. Potential impacts to the long-term management of New River Inlet.

h. Potential impacts to private and public property.

i. Cumulative impacts of Inlet and Inlet channel relocations throughout North Carolina.

j. Cumulative impacts for using inlets as sand source in nourishment projects.

k. Potential impacts on public health and safety.

l. Potential impacts to recreational and commercial fishing.

m. The compatibility of the material for nourishment.

n. Potential economic impacts.

4. Alternatives. Several alternative borrow areas are being considered for the proposed project. These alternatives will be further formulated and developed during the scoping process and an appropriate range of alternatives, including the no federal action alternative, will be considered in the EIS.

5. Scoping Process. A public scoping meeting (see DATES will be held to receive public comment and assess public concerns regarding the appropriate scope and preparation of the Draft EIS. Participation in the public meeting by federal, state, and local agencies and other interested organizations and persons is encouraged.

The COE will also be consulting with the U.S. Fish and Wildlife Service under the Endangered Species Act and the Fish and Wildlife Coordination Act, and with the National Marine Fisheries Service under the Magnuson-Stevens Act and Endangered Species Act. Additionally, the EIS will assess the potential water quality impacts pursuant to Section 401 of the Clean Water Act, and will be coordinated with the North Carolina Division of Coastal Management (DCM) to determine the projects

consistency with the Coastal Zone Management Act. The COE will closely work with DCM through the EIS to ensure the process complies with all State Environmental Policy Act (SEPA) requirements. It is the COE and DCM's intentions to consolidate both NEPA and SEPA processes to eliminate duplications.

6. Availability of the Draft EIS. The Draft EIS is expected to be published and circulated sometime in early 2006, and a public hearing will be held after the publication of the Draft EIS.

Dated: May 12, 2005.
George T. Burch,
Chief of Staff.
[FR Doc. 05-9995 Filed 5-18-05; 8:45 am]

US Army Corps
Of Engineers
Wilmington District

PUBLIC NOTICE

Issue Date: October 4, 2006
Comment Deadline: November 10, 2006
Corps Action ID #: 2005-344-067

All interested parties are hereby advised that the Wilmington District, Corps of Engineers (Corps) has received an amendment to the request for Department of the Army authorization to nourish approximately 7.25 miles of shoreline. The modification will include an additional 3.85 miles of beachfront to protect residential homes and town infrastructures located along the south section of the Town limits. Specific plans and location information are described below. This Public Notice and all plans are available on the Wilmington District Web Site at www.saw.usace.army.mil/wetlands

Applicant:
North Topsail Beach
Attn: Mr. Brad Smith (Town Manager)
2008 Loggerhead Court
North Topsail Beach, North Carolina 28460

AGENT (if applicable):
Coastal Planning & Engineering, Inc.
Attn: Ms. Erin Hague
2481 N.W. Boca Raton Boulevard
Boca Raton, Florida 33431

Authority

The Corps will evaluate this project pursuant to applicable procedures to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. This notice acts as an amendment to our May 24, 2005 Public Notice.

Location

The project site is located at 34-491833 and 77-419735 on North Topsail Beach and will encompass approximately 3.85 miles, or 20,325 linear feet, of ocean shoreline along the southern section of the beach, in Onslow County, North Carolina.

Existing Site Conditions

The ocean shoreline of Town of North Topsail Beach encompasses approximately 11.1 miles along the northern end of Topsail Island. The majority of the central and northern sections of the beach are located within the Coastal Barrier Resource System (CBRS), which prohibits the expenditure of Federal funds pursuant to the Coastal Barrier

Resources Act of 1982 (CBRA-82) and the Coastal Barrier Improvement Act of 1990 (CBIA-90). The Town is currently pursuing and evaluating a non-federal shoreline protection plan to nourish these two sections, which are approximately 7.25 miles in length, as described in the May 24, 2005 Public Notice. The southern section, which encompasses 3.85 miles, is outside the CBRS, and the U.S. Army Corps of Engineers is currently developing a Federal shoreline protection plan for this section of North Topsail Beach.

Applicant's Stated Purpose

In response to the funding delay of the Federal shoreline protection plan, the Town has opted to include the 3.85 miles of shoreline within the 7.25 miles of the non-federal shoreline protection project. This amendment to the original plan will encompass the entire 11.1 miles of shoreline in North Topsail Beach. The stated purpose is to temporarily address a severe erosion problem that is threatening development and town infrastructure within the 3.85 mile stretch, and to expedite the placement of material as an emergency measure due to the delay in funding to complete the federal plan formulation process. Unlike the 7.25 mile sections, the nourishment of the 3.85 mile southern section will be a single event and will not be included in the overall management plan.

Project Description

The formulation of the federal storm damage reduction project for the southern 3.85 miles of North Topsail Beach by the Corps of Engineers is based on the condition of the shoreline that existed in 2002. Corps of Engineers guidance for the design of the emergency beach fill in the South Section indicated that the volume of material should be based on: (1) restoring the 2002 shoreline condition and (2) providing advanced nourishment sufficient to maintain the 2002 shoreline condition until the federal storm damage reduction project is implemented (estimated timeframe 6 to 8 years). The volume of material necessary to achieve the project objective will range between 500,000 and 1,000,000 cubic yards, and will be dredged from the original borrow area. The material would be distributed along the 3.85 mile shoreline in the form of a horizontal beach berm at elevation +7.0 NGVD (National Geodetic Vertical Datum). The berm would begin near the seaward toe of the existing dune system and would extend 75 to 150 feet seaward depending on the final design volume and foreshore slopes that the fill assumes during construction.

The scope of activities for the proposed emergency beach fill project includes: (a) additional vibracores in the borrow area, (b) side scan sonar surveys of the ocean bottom just offshore of the South Section, (c) in-water investigations of potential near shore hard bottom resources identified by the side scan sonar survey, and (d) beach profile surveys. The boundaries of the borrow area will take into consideration the location and extent of hard bottom resources identified by side scan sonar and seismic surveys and in-water observations conducted in connection with the planning and design of the northern 7.25 mile beach nourishment project. A magnetometer survey will be conducted in the borrow area. Any historically significant archaeological artifacts located by the magnetometer

surveys and verified through field investigations will be avoided. A final compatibility analysis of the material in the borrow area with the native beach material will be performed following the refinement of the boundaries of the borrow area.

This notice is to additionally inform interested parties of our issued October 10, 2006 amended Notice of Intent to include the 3.85 mile south section in the preparation of the project Environmental Impact Statement (EIS), which can be found on the Federal Register website, www.access.gpo.gov/su_docs/fedreg/a050519c.html (that is an underscore "_" after su). Once you have connected with the website, go to Engineers Corps to locate subject matter.

As disclosed in the Notice of Intent, any written comments pertinent to the proposed work, as outlined above, must be submitted to this office, Attention: Mickey T. Sugg, until 4:15 p.m., November 10, 2006. Question can be directed to Mr. Sugg at (910) 251-4811, Wilmington Regulatory Field Office.

Notice of Intent To Prepare a Draft Environmental Impact Statement (DEIS) for the Nourishment of 7.25 Miles of Beach, the Repositioning of the New River Inlet Channel, and the Implementation of an Inlet Management Plan, in North Topsail Beach, Onslow County, NC

[Federal Register: October 10, 2006 (Volume 71, Number 195)]
[Notices]
[Page 59498-59499]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr10oc06-48]

DEPARTMENT OF DEFENSE
Department of the Army; Corps of Engineers

Notice of Intent To Prepare a Draft Environmental Impact Statement (DEIS) for the Nourishment of 7.25 Miles of Beach, the Repositioning of the New River Inlet Channel, and the Implementation of an Inlet Management Plan, in North Topsail Beach, Onslow County, NC

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.
ACTION: Notice of Intent.

SUMMARY: The U.S. Army Corps of Engineers (COE), Wilmington District, Wilmington Regulatory Field Office has received an amendment to the request for Department of the Army authorization, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, from the town of North Topsail Beach to nourish approximately 7.25 miles of shoreline. The modification will include an additional 3.85 miles of beachfront to protect residential homes and town infrastructures located along the south section of the Town limits. The proposed sources of material for the addition will be dredged from the same offshore borrow area as described in the original 7.25 mile plan. The placement of beach fill along the Town's southern shoreline would result in the initial widening of the beach 75 to 1590 feet seaward, depending on the final design volume and foreshore slopes that the fill assumes during construction.

The 3.85 miles of shoreline are located at the southern end of North Topsail Beach. Unlike the original 7.25 miles of proposed nourishment, the additional section is outside the Coastal Barrier

Resource System (CBRS) designation; therefore, it is not subject to the expenditure of Federal funding restrictions associated with the Coastal Barrier Resource Act of 1982 and the coastal Barrier Improvement Act of 1990. This south section, or stretch, of shoreline is currently being considered by the U.S. Army Corps of Engineers for a federal shoreline protection project. Due to delays to complete the federal plan formulation process, the North Topsail Beach Board of Alderman voted to include the 3.85 mile section in the non-federal 7.25 mile section that is currently under review pursuant to the Environmental Impact Statement (EIS) procedures. The decision to include the south section in the present EIS process is intended to act as interim or emergency beach fill by preserving existing development and infrastructure along the 3.85 miles of shoreline while the federal plan formulation continues.

The original Notice of Intent was published on May 19, 2005 (70 FR 28924) with a commenting deadline of June 21, 2005.

DATES: Written comments for this project amendment or modification must be provided by November 10, 2006.

ADDRESSES: Copies of comments and questions regarding the inclusion of the additional 3.85 miles of nourishment may be addressed to: U.S. Army Corps of Engineers, Wilmington District, Regulatory Division. Attn: File Number 2004-344-067, Post Office Box 1890, Wilmington, NC 28402-1890.

FOR FURTHER INFORMATION CONTACT: Questions about the proposed amendment and DEIS can be directed to Mr. Mickey Sugg, Wilmington Regulatory Field Office, telephone: (910) 251-4811.

SUPPLEMENTARY INFORMATION: 1. Project Description. The formulation of the federal storm damage reduction project for the southern 3.85 miles of North Topsail Beach by the Corps of Engineers is based on the condition of the shoreline that existed in 2002. Corps of Engineers guidance for the design of the emergency beach fill in the South Section indicated that the volume of material should be based on: (1) Restoring the 2002 shoreline condition and (2) providing advanced nourishment sufficient to maintain the 2002 shoreline condition until the federal storm damage reduction project is implemented (estimated timeframe 6 to 8 years). The volume of material necessary to achieve the project objective will range between 500,000 and 1,000,000 cubic years. The material would be distributed along the 3.85 mile shoreline in the form of a horizontal beach berm at elevation +7.0 NGVD (National Geodetic Vertical Datum). The berm would begin near the seaward toe of the existing dune system and would extend 75 to 150 feet seaward depending on the final design volume and foreshore slopes that the fill assumes during construction.

2. Proposed Action. The scope of activities for the proposed emergency beach fill project includes: (a) Additional vibracores in the borrow area, (b) side scan sonar surveys of the ocean bottom just offshore of the South Section, (c) in-water investigations of

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potential near shore hard bottom resources identified by the side scan sonar survey, and (d) beach profile surveys. The boundaries of the borrow area will take into consideration the location and extent of hard bottom resources identified by side scan sonar and seismic surveys and in-water observations conducted in connection with the planning and design of the northern 7.25 mile beach nourishment project. A magnetometer survey will be conducted in the borrow area. Any historically significant archaeological artifacts located by the

magnetometer surveys and verified through field investigations will be avoided. A final compatibility analysis of the material in the borrow area with the native beach material will be performed following the refinement of the boundaries of the borrow area.

3. Issues. There are several potential environmental issues that will be addressed in the EIS. Issues initially identified as potentially significant include:

a. Potential impact to marine biological resources (benthic organisms, passageway for fish and other marine life) and Essential fish Habitat, particularly Hard Bottoms.

b. Potential impact to threatened and endangered marine mammals, birds, fish, and plants.

c. Potential impacts to water quality.

d. Potential increase in erosion rats to adjacent Onslow Beach.

e. Potential effects on military training on U.S. Marine Corps Camp Lejeune Base.

f. Potential impacts to Navigation, commercial and recreational.

g. Potential impacts to the long-term management of New River Inlet.

h. Potential impacts to private and public property.

i. Cumulative impacts of Inlet and Inlet channel relocations throughout North Carolina.

j. Cumulative impacts for using inlets as sand source in nourishment projects.

k. Potential impacts on public health and safety.

l. Potential impacts to recreational and commercial fishing.

m. The compatibility of the material for nourishment.

n. Potential economic impacts.

4. Alternatives. Several alternatives, including various borrow areas, are being considered for the 11.1 miles of shoreline. These alternatives are being further formulated and developed during the scoping process and an appropriate range of alternatives, including the no federal action alternative, will be considered in the EIS.

5. Scoping Process. A public scoping meeting was held on June 7, 2005, and Project Delivery Team (PDT) meetings are continuing on a periodic basis. The release of the Draft EIS is expected sometime in early 2007.

The COE will also be consulting with the U.S. Fish and Wildlife Service under the Endangered Species Act and the Fish and Wildlife Coordination Act, and with the National Marine Fisheries Service under the Magnuson-Stevens Act and Endangered Species Act. Additionally, the EIS will assess the potential water quality impacts pursuant to Section 401 of the Clean Water Act, and will be coordinated with the North Carolina Division of Coastal Management (DCM) to determine the projects consistency with the Coastal Zone Management Act. The COE will closely work with DCM through the EIS to ensure the process complies with all State Environmental Policy Act (SEPA) requirements. It is the COE and DCM's intentions to consolidate both NEPA and SEPA processes to eliminate duplications.

6. Availability of the Draft EIS. The Draft EIS is expected to be published and circulated sometime in early 2007, and a public hearing will be held after the publication of the Draft EIS.

Dated: October 6, 2006.
John E. Pulliam, Jr.,
Colonel, U.S. Army, District Commander.
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